# NATIONAL PETROLEUM NEWS

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# Markets Should Hold Good In December

## Mid-Continent refiners see nothing to change present strong trend. Eastern Markets hard to forecast. Crude production may tend upward

### Mid-Continent Refinery Market

MID-CONTINENT gasoline and fuel oil markets may be expected to display strength during December. At this time there is no factor in sight which might turn the market aside from the upward movement that gained momentum throughout November.

There are virtually no stocks of gasoline in the hands of Independent refiners in the Mid-Continent field. Recent surveys conducted by this publication showed that total stocks of gasoline at 112 plants were equivalent to only 12 day's supply. This is little more than a working stock necessary for good refinery operation.

Refiners in the Mid-Continent have already sold a substantial portion of their December gasoline production in advance. Exporters have bought liberally where they could and have given evidence of willingness to take more. It appears unlikely that gasoline stocks will increase to any extent during the coming month, certainly not to a point which would necessitate dumping on the market.

Crude is difficult to find because of the optimism of producers. Refiners will be inclined to keep their gasoline prices up to their present level or above because of their belief that crude costs will advance soon, possibly before the close of the month.

Fuel oil stocks in Independent hands in the Mid-Continent are likewise low and December buying should keep prices well above the average of November prices.

December weather conditions will be the greatest single factor in the distillate market and will rule kerosene to a certain extent as well. Supplies of distillate on hand at Mid-Continent refineries are ample for present needs and it is unlikely that prices will advance very sharply during the month. Some advances, however, may be expected around Christmas, when jobbers begin to buy for their mid-winter fills.

Lubricating oil prices are low at present and probably will not decline further. An advance in crude would probably cause refiners to advance their list prices in spite of the fact that current business is not brisk.—J. C. Chatfield.

### Chicago Markets

WHAT are the jobbers doing with the gasoline they have been buying the last month? The answer to that question may lead to a solution of how long the current bull movement can last. If they have sold it to somebody who went out promptly and burned it up, then the bull movement might continue to Christmas; but if they have been tucking it away in storage, they can't keep it up long. The truth is, they have been doing a little of both. Only the ratio is undetermined.

Weather has been good for November. It has been dry below and fair above and cool air no longer stops motoring. No doubt the jobbers have a place to put their late November purchases. Refinery storage in the Mid-Continent is empty too, it is generally conceded, so refiners could keep running without selling much, even if consumption were halted suddenly by weather—and it will be affected by weather sure and soon. This winter wilting of the demand need not hurt the price, however, for refiners are in a strong position and foreign buyers are in the market.

Although a weakening of domestic demand may reasonably be expected some time after Dec. 15, it does not follow necessarily that refiners will have to curtail and that jobbers will rue their purchases. On the contrary, in view of conditions reported from the field it would seem that 9-cent gasoline might be settled and firm before the holidays, not considering the possibility of an advance in the tank wagon price or the crude oil market or both. Such development of course would mean higher prices.

It is the acme of futility to predict what the Standard Oil Co. may do about the posted tank wagon market. Independents have good reason to believe "probable effects" and "current justification" have equal consideration by the price-naming authorities when those elders assemble in presbytery. But what may happen and when is known to nobody in the organization or out of it, many hours in advance of the event.

That large class of Chicago oil men who live by their ability to interpret a situation rightly, are most concerned in crude price developments, believing no tank wagon raise will come before Oklahoma crude advances. Some of them studiously watch the ticker tape for "bull tracks" and continually assert that a crude boost is due to appear on the zodiac just a little in advance of the "Fiscal Equinox."

As for kerosene, it may be expected to advance in price slightly over December as pushed up by the price of distillate.

—Ward K. Halbert.

## Western Pennsylvania Markets

THE NATIONAL TRANSIT CO.'S embargo on crude oil runs to its lines except for immediate shipment, makes prediction of the probable course of Pennsylvania refinery markets during the ensuing month a precarious task. Were a great quantity of crude oil to be dumped on the market and were refiners to increase their rate of operation to absorb the raw material thus made available, it is probable that some weakness might develop in gasoline but hardly in any other of the other major products.

If producers can store their own crude and not be forced to sell it in order to move it off their leases, they may be able to force an advance in the posted price. Premiums have not been openly paid so far for crude and most refiners have curtailed their operations rather than pay premiums at this time, having in mind the effect too early and too rapid advances in crude oil prices have had in the last three years. Should such an advance be made—and the posted price has been raised in the last three Decembers—prices of refined products undoubtedly will go higher.

Demand for lubricating oils is large. Industry is moving forward into another era of prosperity. Conditions in Europe are improving, according to the best reports from abroad. Foreign countries consume about a third of the lubricants produced by the American petroleum industry. Motor cars consume about one-fifth of the total output, leaving a difference of slightly less than half of the output to domestic industrial consumption. Thus, it will be seen that with conditions improving at home and abroad, consumption by the users of four-fifths of the output of lubes is bound to increase.

Of course, industrial consumers will not order out large quantities of oils until after inventory taking at the end of the month, but it is probable that the placing of orders in the next month will bolster the market to a large extent. Prices of cylinder stocks and neutrals cannot rise too high because of the larger stocks and relatively lower prices in the southwest, but it does seem that the peak of Pennsylvania neutrals and cylinder stocks is yet to be reached.

Kerosene and fuel oil, now in the season of greatest demand, should continue to show strength. Any advance in the price of crude oil undoubtedly will be reflected immediately in burning oils.

Gasoline probably is the only thing that may suffer by an increased output but there are many factors which may act to keep it firm and be in position to move with crude. Among the factors that may serve as a buoy to motor fuel, is increased winter driving because of the greater number of enclosed cars and the extension of hard surface highways.

Paraffin wax now is largely sold up and not enough will be available on the open market in the next few weeks to weaken it. It now seems that the only possible change can be toward a higher price level.——R. B. Stafford.

## Mid-Continent Production

PRESENT indications are that the tendency of Oklahoma production during December will be upward, although no very great change one way or the other seems likely at this time. The state gained about 13,000 barrels a day in its output at the close of November as compared with 30 days previous, but it does not appear probable that there will be so large an increase in December.

Tonkawa and Cromwell have for some time past been the principal factors in the course of Oklahoma's output of crude, but for the coming month we must also take into consideration the Papoose field, which is now up to 30,000 barrels daily, and which may develop rapidly into another Cromwell. This field practically doubled its production during November, and, with a large potential area and about 50 wells drilling. may be up to around 45,000 barrels daily by Dec. 31.

Tonkawa added only 10 deep wells in November, instead of the 15 predicted in this column a month ago, and wound up the month producing about 6000 barrels a day more than at the 'start. Two of the 10 completions in the deep sand were dry holes, limiting the area of the field in a north-northwest direction. The field has been over the 100,000 barrel figure for the past three weeks. It is likely, however, that it will decline considerably during December.

Cromwell brought in a flock of new wells during November, and got up as high as 50,000 barrels a day on certain days, although its best average for a week was around 48,000 barrels. It, also, was making about 6000 barrels a day more at the end of November than at the start. The probabilities are that this field will rock along at somewhere near its present output during December, although estimates as to its final peak are again due for revision since the Sinclair company drilled in a big well more than a quarter-mile north of production.

December's prospects from a production standpoint, therefore, are increased output, with a possible large gain at Papoose offset to considerable degree by a decline at Tonkawa, while Cromwell will have a tendency to decline, but without material change either up or down. The Wewoka field, which jumped from 8,000 barrels to nearly 13,000 barrels in November, may increase its output further in December, but probably not by nearly so large an amount. Burbank probably will continue to decline slowly during the month, as will all other settled fields in the state.

The increasing production maintained during November had the effect of slowing down the upward trend of the crude market somewhat, so that premium-paying did not reach the extent predicted for it a month ago. Some premiums are being paid, and the big companies are seeking connections, but the scramble for crude that seemed imminent 30 days ago apparently has been postponed for the duration of the present upward movement of the production curve.

While a crude price increase is still confidently looked for along about Jan. 1, certainly recent developments have not made it any more likely than it was. Production increasing in the Mid-Continent field, together with the opening of what appears to be a prolific new field in Texas and a new deep sand at Smackover are three factors which can not but have a depressing effect on the crude market. It does not seem possible that crude will go up in price during December, with production high and considerable new oil in sight.—A. F. Hinton.

## Texas-Louisiana-Arkansas Production

ASIDE from the headway to be gained in the flush development of the new Wortham pool of east Texas, there may be expected in December material increases in daily average production from the South Vernon and Archer county divisions of the Greater Wichita Falls district.

A narrow pool that is variously estimated to eventually cover from 600 to 1200 acres is being developed south of the town of Vernon, in Wilbarger county, where highly satisfactory wells of the general type of the deep-pay completions at Electra come in for production around the 2000-foot level.

The production at South Vernon, which has been recently from 6000 to 8000 barrels daily, should double in December; and conceivably might reach an even higher level.

In Archer county, a number of small pools at considerably shallower levels give up wells which will average 200 to 300 barrels, initial production. The total completions of such pools should add another 10,000 barrels within the next 30 to 40 days.

Although the Big Lake district of Reagan county may provide some increase in production before Jan. 1, the rate at which this oil will come above ground is under operating control that will prevent its being, at least for the present, an economic menace. Increased pro-

(Continued on page 20)

# THIS WEEK'S MARKETS SUMMARIZED

## Crude Production By Districts

### OKLAHOMA

| | Nov. 29 | Nov. 22 |
|---|---|---|
| Bristow | 41,225 | 42,000 |
| Burbank | 72,260 | 72,690 |
| Cushing | 23,200 | 23,200 |
| Cromwell | 47,880 | 47,715 |
| Healdton | 15,800 | 15,875 |
| Hewitt | 18,880 | 18,900 |
| Osage, except Burbank | 38,250 | 38,700 |
| Papoose | 29,565 | 27,530 |
| Stroud | 3,760 | 4,285 |
| Tonkawa | 106,895 | 103,899 |
| Wewoka | 12,720 | 12,820 |
| Other fields | 114,500 | 114,000 |
| Total | 525,435 | 521,614 |
| Increase | | 3,821 |

### KANSAS

| | | |
|---|---|---|
| Augusta-Douglass | 3,500 | 3,500 |
| Blankenship District | 2,580 | 2,550 |
| Elbing-Peabody | 7,200 | 7,200 |
| El Dorado | 15,875 | 15,900 |
| Fox-Bush | 2,860 | 2,900 |
| Greenwood County | 27,000 | 27,100 |
| Other fields | 31,300 | 31,225 |
| Total | 90,315 | 90,375 |
| Decrease | | 60 |

### TEXAS AND COASTAL LOUISIANA

| | Nov. 29 | Nov. 22 |
|---|---|---|
| Mexia, Richland, Currie | 51,200 | 51,800 |
| Wortham* (new field) | 4,570 | ..... |
| Corsicana, Powell | 69,300 | 70,000 |
| Wichita Falls Dist | 86,895 | 75,910 |
| Ranger, lime | 28,830 | 29,070 |
| Ranger, sand* | 9,990 | 9,725 |
| West Texas: Reagan, Mitchell and Scurry counties | 8,325 | 8,770 |
| Panhandle | 1,390 | 1,210 |
| San Antonio, Luling, Mirando | 49,700 | 50,100 |
| Coastal Texas | 71,260 | 74,320 |
| Coastal Louisiana | 8,645 | 8,520 |
| Total | 390,105 | 379,425 |
| Increase | | 10,680 |

*Includes Young, Palo Pinto, Shackleford, Brown Coleman and Callahan counties.

## Marketing

(Market News on pgs. 97-110)

**Oklahoma, Kansas.**—Gasoline is active and stronger. Export buyers interested although purchases have not been large. Natural gasoline strong. Kerosene slow. Cylinder stocks more active. Neutrals quiet. Fuel oil strong and higher.

**North Texas.**—Heavy export buying of gasoline makes market bullish. Kerosene stronger. Gas oil firm. Distillates improved. Fuel stronger.

**Chicago.**—Gasoline strong. Kerosene improved. Distillates moving better. Fuel oil stronger.

**Pennsylvania.**—Cylinder stocks and neutrals scarce and strong. Fuel active and strong. Kerosene firm. Gasoline active and higher. Wax steady.

**Gulf Coastal.**—Lubes stronger. Demand steady.

**California.**—Export gasoline movement small; prices unchanged. Kerosene shows weaker tendency.

**New York Export.**—Gasoline prices advanced; stocks lowered. Kerosene firmer. Cylinder stocks demand better. Other lubes steady. Paraffin oils quiet but steady. Wax steady. Bunker oil higher.

**New Orleans Export.**—Prices advancing. Large amount of gasoline selling for January and February delivery. Kerosene firmer. Bunker oil firmer. Lubes 1 cent higher. Wax quiet but steady.

### Total Estimated Production

| | | |
|---|---|---|
| Eastern | 107,000 | 106,500 |
| **Total U. S.** | **1,968,535** | **1,949,250** |
| Increase | 19,285 | |

## Crude Production By Districts

### CALIFORNIA

| | Nov. 29 | Nov. 22 |
|---|---|---|
| Long Beach | 130,000 | 131,000 |
| Santa Fe Springs | 52,000 | 53,000 |
| Torrance | 46,000 | 47,000 |
| Huntington Beach | 40,000 | 40,000 |
| Dominguez | 36,000 | 33,500 |
| Rest of state | 290,000 | 289,000 |
| Total | 594,000 | 593,500 |
| Increase | | 500 |

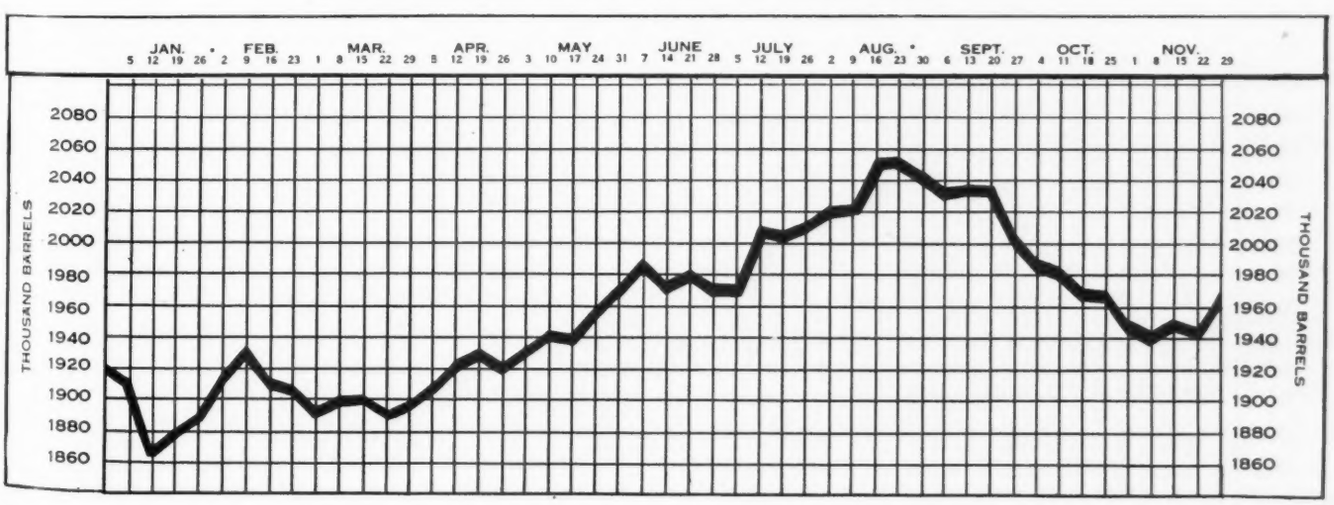
### ROCKY MOUNTAIN

| Fields | Nov. 29 | Nov. 22 |
|---|---|---|
| Salt Creek | 60,200 | 52,520 |
| Teapot | 2,225 | 1,900 |
| Big Muddy | 3,910 | 3,050 |
| Grass Creek | 3,075 | 3,465 |
| Elk Basin | 1,020 | 975 |
| Greybull, etc. | 90 | 80 |
| Rock River | 3,665 | 3,000 |
| Lance Creek | 1,000 | 1,045 |
| Poison Spider | 520 | 900 |
| Osage | 335 | 350 |
| Hamilton Dome | 1,020 | 285 |
| Notches | 275 | 280 |
| Lander | 315 | 325 |
| Pilot Butte | 80 | 90 |
| Lost Soldier | 4,600 | 5,690 |
| Ferris | 50 | 75 |
| Craig | 1,140 | 1,300 |
| Cat Creek | 3,335 | 3,640 |
| Kevin-Sunburst | 3,090 | 3,600 |
| Miscellaneous | 820 | 915 |
| Total | 90,765 | 83,485 |
| Increase | | 7,280 |

### NORTH LOUISIANA—ARKANSAS

| Daily Average | Nov. 29 | Nov. 22 |
|---|---|---|
| Caddo, light | 9,634 | 9,749 |
| Caddo, heavy | 2,291 | 2,034 |
| De Soto—Red River | 5,321 | 5,326 |
| Cotton Valley | 10,240 | 12,560 |
| Haynesville | 16,834 | 16,704 |
| Homer | 6,936 | 7,032 |
| Bellevue | 3,540 | 3,624 |
| El Dorado | 11,026 | 11,028 |
| Smackover, light | 31,144 | 31,246 |
| Smackover, heavy | 70,631 | 71,892 |
| Stephens | 2,010 | 1,796 |
| Nevada County | 1,308 | 1,360 |
| Total | 170,915 | 174,351 |
| Decrease | | 3,436 |

## Watch The Trend Of The Week's Production



(Continued from page 18)

duction there and elsewhere in Texas, except at Wortham and the aforementioned divisions of the Wichita Falls district, should be only sufficient to offset normal declines in other areas.

Besides the Wichita Falls district increases, the burden of fresh supplies of crude to be shortly available in Texas will be carried by the intensive development of the Wortham townsite area and adjacent small plots. This pool will be drilled as rapidly as tests can be put down on virtually every town-lot or acreage-plot within the geological limits of the producing structure as now measured.

That the pool would reach a minimum field mark of 50,000 barrels had been conceded in advance of the completion of the discovery well, so clearly had the structural conditions been shown by correlating logs of wells within the pool with previously drilled failures in all directions from the narrow strip which constitutes the Wortham field.

The rate of development and the bunching of flush wells, however, will control the maximum daily average.—Paul Wagner.

## Rocky Mountain Production

IT has been a year since Colorado appeared on the horizon as a large producing probability. The sizeable wildcatting campaign that since developed was ushered in by the discovery of gas at Wellington, north of Denver.

Sometime later came the oil well on the western slope of the Rockies, known as the Moffat field, and added color to the belief that a sizeable portion of the state would be found productive.

Now, with the winter season upon them, operators in Colorado are still unable to tell what contribution the state will make to the supply of oil. The year has brought nothing new to Wyoming, in the way of high grade oil fields, except the Rex Lake field which probably will be of small areal extent.

The immediate future holds only a continuation of the present situation wherein production just about balances refinery requirements and this after the big Casper plant has started running about 20,000 barrels under daily capacity. There was a small withdrawal from crude oil stocks in October.

Viewed as a separate problem, an increase in crude oil prices for the Rocky Mountain district is in order, but as realization from refined products is based upon the Group 3 market, whatever change in markets occurs will doubtless follow events in the Mid-Continent.—L. E. Smith.

## California Production

ALTHOUGH production averages show slight decreases or increases from week to week in December, the California situation will approximate a balance in this regard. No radical declines may be expected in the next 30 days, and increases in daily yields would be proportionately small within the period mentioned.

The fact that California is still adding to stocks, and will continue to do so for several months, makes it certain that no immediate need exists for concerted efforts to develop fresh sources of crude supply.

It is true that drafts have been recently made on stocks of the refinable crude, testing 20 degrees, A.P.I., and lighter, together with withdrawals of naptha distillate. These decreases in total stocks, however, have been more than offset by the accumulation of heavy and fuel grades.

There should be no surprise occasioned by the fact that eastern purchasers have found no encouragement with regard to California contract commitments for 1925, as fuel stocks have never been burdensome under conditions prevailing on the Pacific coast and refinable crude from current production is now down to an average yield level that permits the desired withdrawal of small quantities from storage.

No delusion should be suffered about the ability of California to increase its light oil production, however, when the needs of the principal companies require it. Dominguez and Rosecrans both have their future ahead of them and the Inglewood section of the Los Angeles basin may be expected to give up eventually important quantities of refinable grades of crude.

The development of the Inglewood section will be further delayed, and Rosecrans may continue to show unsatisfactory results in proportion to operating expenditures, but each of these pools has yet to reach its stride in Los Angeles Basin operations.—Paul Wagner.

## Prepare Way For More Gasoline Taxes

CLEVELAND, Dec. 2.—Ways were prepared in two states in the recent elections for the enactment of gasoline tax measures. These states are Minnesota and Kansas where amendments to the state constitutions were adopted. Whether the states may have taxes is up to the legislatures. Missouri adopted a measure providing for a 2-cent tax but the voters of Massachusetts overwhelmed the 2-cent gasoline bill enacted by the legislature early in 1923 and which was submitted to a referendum on Nov. 4.

Proposal has been made in Maine that the tax be increased from 1 to 3 cents per gallon by tne legislature which meets early next year. The proposal has been made by the state highway commission in its estimate of requirements for the 1926 and 1927 fiscal years.

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TULSA, Nov. 29.—A 2-cent tax on gasoline in Missouri will become effective on Jan. 1, 1925, as a result of an amendment to the constitution of that state adopted at the recent general election. The amendment also provides for additional automobile taxes for road purposes.

The Kansas legislature is expected to consider a tax on gasoline at its next session. An amendment to the constitution adopted at the recent general election gives the legislature power to enact such a tax law.

### Another Pioneer Oil Man Dies

CHICAGO, Nov. 28.—The death on Nov. 9 of William F. Harvell, engineer since 1895 at the south Chicago plant of the Valvoline Oil Co., marked the passing of another pioneer in the oil industry. He was 86 years old at the time of death, and was for 56 years on the pay-roll of the Valvoline company, according to Robert Bruce White, sales manager. Mr. Harvell was born at Binghamton, N. Y. and at the age of 30 first entered the oil industry as an oil salesman for T. M. Leonard of the Valvoline, who was a boyhood friend, opening the northwestern division for that company in 1868 with headquarters at Chicago. His pioneer work was the displacement of tallow in animal oils as steam cylinder lubricants.

In 1895 Mr. Harvell was made engineer at the south Chicago plant, which was a sort of semi-retired position which he held until his death. In January of this year he fell from a street car and never fully recovered from the effects of the injury.

He is survived by one son, Gaylord Harvell of Chicago.

## Correction

It was erroneously stated in an editorial published on page 40 of the Nov. 26 issue of National Petroleum News that the meeting of the councillors of the American Petroleum Institute to nominate candidates for the board of directors was to be held Monday, Dec. 8. The meeting will be held on Tuesday morning, Dec. 9, the first day of the Institute's annual meeting at Fort Worth.

# National Transit Declares Embargo On Pennsylvania Crude

**By Roger B. Stafford**

STAFF REPRESENTATIVE

CLEVELAND, Dec. 2

THE National Transit Co. put into effect Dec. 1 an embargo on Pennsylvania grade crude oil, declaring that its lines and storage facilities were filled. The only oil that will be run from its connections will be in cases where shipping orders accompany the tender.

The embargo was the result of the policy of a great many producers in Pennsylvania to hold their credit balances because of the low price of crude since Aug. 5 when price at the well was reduced to $2.75 per barrel.

The effect of the embargo is yet in doubt. Buyers of crude said late yesterday, after the embargo had been in effect during the usual buying hours, that no difference in the volume of tenders of credit balances had been noted from recent weeks. Refiners were offered no more crude than had been available during the last three or four months.

### May Force Price Advance

It is expected, however, that the embargo will have either of two effects. It may force out crude credit balances from the hands of holders who are unable to or do not wish to provide their own storage facilities for future production or it may force up the price of crude which is the object of the producers in clinging to their pipe line receipts.

Refiners have been complaining for some time that they have been unable to buy enough crude to meet a large part of the demand for Pennsylvania products. They have hesitated at paying premiums for their raw material fearing that to do so might cause a runaway market for crude, such as resulted in demoralization early this year and in the early part of 1923.

Pennsylvania refiners generally say they realize that the producer of Pennsylvania crude cannot profitably sell his oil for $2.75 per barrel but they add they cannot afford to pay a price for oil that is out of line with western competition and cite the case of viscous neutrals which rose to such a height early this year that considerable business was driven out of the territory.

### Market Demand Unfilled

Prices of lubricating oils have now risen to a point where the refiner would be in a fair position were he able to utilize his entire refining facilities but all during the late summer and fall, most refiners have been forced to operate at a rate greatly below the capacity of their plants, and below the demands of the market for Pennsylvania products.

Refiners doubt that a freer supply of crude oil would cause any weakening in the prices of refined products at this time. Almost all refiners are far behind in their orders and have been turning down business regularly, they say. Enough potential business has been floating around the western Pennsylvania plants in the last two months to keep plants running at a greater rate of output well into next year, observers of the Pennsylvania situation point out. An increase in the price of crude oil at the well will surely bring higher prices for finished oils, they predict.

### Cost of Crude Delivered

With the $2.75 price at the well, refiners must pay $3.25 to $3.50 for the oil delivered at their plants, depending on whether the crude comes from Pennsylvania, southeastern Ohio or West Virginia. In the Bradford district where the posted price is $2.85 a barrel but where a 25-cent premium is paid by refiners in that region, the delivered cost runs about $3.60 to $3.70 per barrel. The Bradford field is not greatly affected by the embargo as most producers are selling their crude about as fast as run. A large part of the oil is run into lines of the refining companies or Independent purchasers and not into the lines of the National Transit.

The embargo is the first declared by the National Transit since the time of flush production in the Bradford field in the early 80's. F. D. Williams, president of the transit company, said it was regrettable that an embargo was found to be necessary but because of storage conditions his company was unable to accept any tenders except when shipping orders accompanied the tender.

The embargo order follows:

"The mains, tributary lines and tankage of the National Transit Co. are practically all filled with oil and it is therefore necessary to discontinue receiving oi linto its custody on and after December 1, 1924, except for immediate shipment and delivery. Producers will be required to either give shipping orders for, or transfer to, a prompt shipper, an amount of oil equivalent to the amount of oil requested to be run before the same will be run. This embargo will be lifted at the earliest possible moment."

When a producer presents shipping instructions at any of the National Transit offices together with a tender of crude to be run from a lease, Mr. Williams said a gauge would be instructed immediately to run the oil.

Mr. Williams said an embargo was near about a year ago but that conditions changed within 24 hours of the time his company deemed it necessary to make such a declaration.

Embargoes have been declared in recent years by the Eureka in West Virginia and the Cumberland in Kentucky. The lines and storage of the South West Pennsylvania Pipe Lines are reported to be about filled with producers' crude but as yet no embargo has been declared.

## Perry Resigns From Cosden & Co.

TULSA, Dec. 1.—E. R. Perry, vice president of Cosden & Co., has tendered his resignation to that company effective Dec. 1, it was learned at the offices of the company here today. Mr. Perry was not in the city today and has made no announcement as to his future plans.

Mr. Perry has been associated with Cosden in an executive capacity for many years. He has been a leader in the Western Petroleum Refiners Association of which he has been a director. Mr. Perry is a large stockholder in the Moore Refining Co. of Arkansas City and has other interests in the Mid-Continent.

## Judge C. D. Chamberlin Is Back At Desk

CLEVELAND, Dec. 1.—Judge C. D. Chamberlin, general counsel of the National Petroleum Association, has returned from his sojourn to his summer home at Wampers Lake Mich., where he went to recuperate from his illness of last spring and summer. Judge Chamberlin, feeling much improved, will again be actively associated with his law firm of Chamberlin & Fuller, Guardian Bldg., Cleveland, and will engage in the general practice of law, specializing in rate matters and other features of law pertaining particularly to the oil industry.

The offices of the association have been transfered to Washington but the assistance and advice of Judge Chamberlin as general counsel will be available to the association and its members through his Cleveland office.

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WAUPUN, WIS., Dec. 1.—Waupun Oil Co. has just let a contract for the erection of a modern filling station, work to be done this winter, according to H. G. Cross, sole owner of the company.

# Fuel Oil Stocks In Mid-Continent Reduced; Gasoline Stocks Gain

TULSA, Dec. 1

STOCKS of gas and fuel oils were reduced 2,300,000 gallons at refineries in the Mid-Continent field during the week ending Nov. 28, according to the weekly survey of manufacturing operations in five states conducted by National Petroleum News. Total shipments for the week were 37,405,209 gallons while production was 35,104,291 gallons.

For the last week in November, this publication gathered operating reports from 116 plants in the field with a still capacity of 418,500 barrels per day. This represents an increase of four plants with a capacity of 23,300 barrels as compared with the compilation for week ending Nov. 21. One plant of 10,000 barrel capacity was added in the north Louisiana-Arkansas field, bringing total reporting capacity in that area to 49,900 barrels which represents 70 per cent of the total refinery capacity of the area.

### N. P. N. Refinery Survey For Week Ending Nov. 28

Gas and fuel stocks in Mid-Continent reduced 2,300,000 gallons.

Mid-Continent refineries increased crude runs. Twenty-one Kansas plants increased daily runs 3300 barrels; Oklahoma increased somewhat; Texas refiners reduced runs 5600 barrels.

Gasoline stocks increased half million gallons. Oklahoma and Texas refiners reduced stocks but were outweighed by increases in Kansas, Louisiana and Arkansas. Oklahoma reduced stocks by 100,000 gallons; Texas by 300,000 gallons; Kansas increased stocks by 3000 gallons; Louisiana-Arkansas increased by 590,000 gallons.

Kerosene stocks increased in five states roundly 1,000,000 gallons, bringing stocks on hand to 23 days' supply.

One hundred sixteen refineries reported during week ended Nov. 28 compared with 112 in preceding week. Four refineries added represent charging capacity 23,300 barrels. Charging capacity of 116 plants reporting totals 418,500 barrels a day.

Charges of crude and rerun oils to the stills of reporting refineries were increased appreciably during the last week of the month. In Kansas 21 plants increased their runs 3300 barrels per day. Increases were shown in Oklahoma while Texas refiners reduced their runs 5600 barrels.

Stocks of gasoline were reduced in Oklahoma and Texas but increased slightly in Kansas, Louisiana and Arkansas. The entire group shipped 22,750,867 gallons and manufactured 23,280,854 gallons bringing total stocks to 39,835,140 gallons, an increase during the week of roundly a half million gallons. Gasoline stocks at all plants represented 12 days supply at the rate of shipments maintained during the week.

Kansas plants were able to add 3000 to their stocks during the week, bringing the total to 6,093,731 gallons or a little over seven days supply. Oklahoma stocks were reduced roughly 100,000 gallons to 18,709,206 gallons. Texas refiners reduced their reserves of gasoline approximately 300,000 gallons to 10,845,177 gallons or about 11 days supply, considering that 6,866,964 gallons were shipped during the week. Stocks at Louisiana-Arkansas plants were increased 591,512 gallons to 4,187,026 gallons. Production for the week was 2,258,431 gallons and shipments 1,666,919 gallons.

Stocks of kerosene were increased roundly a million gallons at all plants in the field. Production for the week was 6,543,260 gallons and shipments 5,566,149 gallons bringing total stocks to 18,430,827 gallons. Oklahoma refiners reduced their kerosene stocks slightly while increases are shown in other fields. At the rate of shipments maintained during the week, stocks of kerosene on hand Nov. 28 represented 23 days supply.

Stocks of gas and fuel oil were reduced in every state except Oklahoma. The 43 Oklahoma plants reporting showed production of 11,010,823 gallons and shipments of 10,109,912 gallons, increasing stocks to 36,378,219 gallons. Kansas plants drew over 1,000,000 gallons from stocks with shipments of 7,314,922 gallons and production of 6,458,482 gallons. North and central Texas refiners reduced their stocks of fuel oil 22,000,000 gallons with shipments of 11,088,809 gallons and production of 9,069,829. Stocks at the close of the week were 33,787,489 gallons. Production and shipments nearly balanced in Arkansas and Louisiana, stocks being reduced 130,000 gallons to 18,184,416 gallons. At all plants in the field total stocks of 101,854,516 gallons represented 19 days supply at the rate of shipments during the week.

### Late Tank Wagon Changes

PHILADELPHIA, Dec. 2.—Atlantic Refining Co. on Dec. 2 advanced gasoline 1 cent in Pennsylvania and Delaware, bringing tank wagon to 15 cents in both states, exclusive of the 2 cent tax in the latter state.

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NEW YORK, Dec. 2.—On Dec. 1 Gulf Refining Co. advanced gasoline 2 cents in North and South Carolina to 15 and 15½ cents respectively, meeting prices of the Standard Oil Co. of New Jersey. Some time ago the Gulf reduced gasoline in these two states, but was not met by the Standard.

## Gasoline Yield Averages 32% Of Crude Run

TULSA, Dec. 1.—Gasoline yields at refineries of the United States during the first eight months of this year were 32.01 per cent of crude charged to stills, according to compilations prepared by H. K. Davis, statistician of the Western Petroleum Refiners Association.

In Oklahoma and Kansas gasoline yields were 43.84 per cent. The highest yields were those at Colorado and Wyoming plants reported as 47.44 per cent with Illinois and Indiana yields a close second with 47.2 per cent gasoline recovery. The lowest yield was reported by inland plants in Louisiana and Arkansas with a yield of 18.17 per cent with California next lowest with 21.36 per cent yield.

Kerosene yield at all plants was 8.59 per cent of the total and gas and fuel oil 47.98 per cent.

## Index Of Current Issue


Forecast of December Conditions in Industry.....17-18-20

National Transit Puts Embargo on Crude ..... 21

N. P. N. Survey of Refinery Operations ..... 22

W. H. Gray Replies to Teagle on Fuel Oil ..... 23

Spot Market Right Basis of Marginal Contracts, W. C. Platt 29

How One Jobber Beat the Big Price War ..... 69

Kansas In New Development Phase, Art. 4, Paul Wagner.. 55

Midwest Nearly Ready to Operate Wells Electrically.... 61

**Departments**

Week's Oil Markets Summarized 19
Production News and Completions ..... 33-48
In the Mailbag..... 52
The Editor's Viewpoint ..... 53
Here and There ..... 58
New Station Construction ..... 62
On the Lazy Bench ..... 95
Refinery and Tank Wagon Markets ..... 97-103
Complete Export Markets ..104-105
Financial .....108-110

# Can Oil Producer Afford To Have Price Based On The Price Of Coal?

**By W. H. Gray,**
**President, National Ass'n Of Independent Oil Prodncers**

SINCE 1920 there has been great confusion in the crude oil price structure throughout the United States and Mexico. There has also been a great difference of opinion between the Mid-Continent producer and refiner and the Seaboard refiner as to what should form the basis for the price structure.

The buyers of crude oil who have had and now have easy access to the heavy crudes of South Texas and Louisiana; to the tremendous output in Mexico and the heavy crudes of California and who have the possibility of drawing a large portion of their future supply of oil from Venezuela, Colombia and Peru contend that the price basis should be fuel oil, the price of which to some extent is regulated by the price of coal.

The Mid-Continent refiner and producer, and when I use the word "Mid-Continent" I mean the entire territory stretching from the Rocky Mountains to the Alleghenies and from the Great Lakes to the Mexican border, have contended and still contend that the price structure should be based on gasoline content and not on fuel oil. The division of thought between the Seaboard refiner and the Mid-Continent producer has become more and more apparent.

In 1921 a great effort was made by producers in the Mid-Continent area to get a protective tariff put on imported crude. At that time there were numerous leaders in the Mid-Continent area who did not appreciate the danger that was just ahead of them. They did not fully realize that we were going into a long period of changed conditions and, therefore, they did not put their shoulder to the wheel as they should have done and as they probably would do today if the opportunity offered. It was a remedy which would have succeeded in all probability in saving us a great deal of our misfortunes, however, it is one not available now and I refer to it at this time merely for the purpose of marking the beginning of the differences in thought between the two groups. It is a matter of history that the Seaboard refiner, together with great concerns owning large concessions and operating large producing properties in foreign countries, principally in Mexico, defeated the effort by Mid-Continent producers and refiners to secure a protective tariff on oil.

### Mexico Brought Change

The result of the constant and continuous importation of enormous quantities of cheap low gravity crude from Mexico, coupled with the improvement of cracking processes to improve the yield of gasoline from these low gravity crudes, gradually but surely forced the crude oil market structure to change from a gasoline basis to a fuel oil basis. It was not, as has been suggested by some students of this problem, the sole result of the development of the cracking process which caused the price structure to change from a basis of gasoline to one of fuel oil but it was the direct result of large importations of heavy oil from Mexico. The tremendous increase in consumption of gasoline and other oil products in the United States finally absorbed the surplus production of crude in Mexico.

However, the industry had no more than staggered to its feet under the deluge of Mexican crude until a phenomenal thing happened in the United States which permitted the Seaboard refiner to continue to maintain his policy of buying crude oil based on a fuel oil market. Seven of the largest oil pools that the world has ever seen reached their peak of production at the same time, the year 1923. Three of them were in California; one of them in Texas; one of them in Wyoming and two of them in Oklahoma. In passing, it might as well be said right here that the Seaboard refiner co-operated very meagerly in an effort to curb this great avalanche of production. It is true the Standard Oil Co. of California did quite a lot, as did many other California operators, but the failure of the Standard Oil group on the Atlantic seaboard to co-operate fully in curbing this over-production was a source of disappointment and discouragement to oil producers generally throughout the Mid-Continent field.

There never has been a time in the history of the petroleum industry for the past twenty years when periods of over-production did not force the crude oil market more and more into competition with coal. In periods of over-production the price of crude oil has ever been and probably always will be based on the price of fuel oil. Over twenty years ago when the famous Spindle Top pool near Beaumont came in much of it was sold at 3 cents a barrel and then within the short space of fifteen months the price rose to 75 cents a barrel and it was only a short time after that until the great field of Sour Lake was discovered and the price was forced back to 10 cents a barrel.

### Below 1913 Returns

A great deal of oil in Oklahoma, during the Glenn Pool days along in 1907 and 1908, sold at 25 cents a barrel and yet the posted price stood at $1.04 in the closing days of 1913, only to yield to that great avalanche of oil which was poured out from the Cushing pool and the price receded to 35 cents in 1914. Today the average price of oil in the Mid-Continent area is about 90 cents a barrel. Notwithstanding the fact that lifting costs have almost doubled and development costs have trebled, the Oklahoma producer is not getting as good a price as he did in 1913 for his oil.

The problem of the Mid-Continent producer and the Mid-Continent refiner is not the problem of the Seaboard refiner. The Seaboard refiner can go anywhere in the world and get his crude. The Mid-Continent refiner must of necessity depend upon those deposits lying

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IN effect, the accompanying paper by Mr. Gray is a reply to recent remarks of Mr. Teagle. The latter expressed the opinion that fuel oil prices and not gasoline, may be the determining factor in the price of crude oil. Mr. Gray says the bases upon which the seaboard and the inland plants operate are so fundamentally different that the interior refineries can exist only by basing their operations upon their realizations from gasoline.

Following Mr. Gray's paper, Paul Wagner discusses some of the current factors influencing, or which conceivably might influence, the industry's situation in the near future. There have recently been developments which need analysis. One is the growing scarcity of California oil available to Eastern seaboard plants. Another is the decrease in Mexican production. These changes indicate the call for Mid-Continent crude oil,—high gravity gasoline crude—will influence its price. But the relationship between them and the true economic basis requires examination.

The discussion is not academic, when conducted in the manner it appears here. Mr. Gray's statement that the time is not yet at hand to add to the production is timely and to the point. And, in this connection, the viewpoint of a major company—the Texas Co.,—expressed in its official publication in reply to Mr. Teagle's remarks, adds more light. It is reproduced in this issue.—Editor.

(Continued from preceding page)
within his own territory.

It is the solemn duty of the Mid-Continent refiner and the Mid-Continent producer to co-operate with each other for the purpose of seeing to it that the price of crude oil is based on gasoline and not on fuel oil for the following reasons:

First: In order to protect the more than 287,000 small wells in this area which cannot be operated and exist on a competitive price with coal.

Second: In order to perpetuate as long as possible the vast investment in pipe lines, tank cars and refineries engaged in supplying this great central section of the United States with its refined products.

Third: In order that the children of this generation and their children's children will not be at the mercy of foreign countries and seaboard refiners for their supply of petroleum products.

### Possesses Big Advantage

The policy of the Seaboard refiner with reference to price structure has long been known to numerous students of the industry. Last March in addressing the Western Petroleum Refiners Association at Dallas, Texas, I pointed out the fact that the Seaboard refiner was an International; that he would go to any part of the country and get his supply of oil; that it was a question of transportation with him and a question of price also. However, it has only been recently that these refiners have been willing to acknowledge this fact.

The most powerful in this group of seaboard refiners is the Standard Oil Co. of New Jersey. Linked to the Jersey company is the Standard Oil Co. of New York, the Vacuum Oil Co. and the Standard Oil Co. of California. These four companies and their subsidiaries, which are substantially under the same ownership, handle 700,000 barrels of crude oil per day, or about 30 per cent of the total. The Standard Oil Co. of New Jersey, through its President and its official organ called "The Lamp," recently announced that it was the solemn judgment of the Board of directors of the Standard Oil Co. of New Jersey, the parent company of the greatest oil organization on earth, that the price of crude oil in the future would be based on its relative value to coal. Therefore, it is now up to the Mid-Continent producer, refiner, pipe liner, well driller and tool dresser to definitely determine whether this policy of the seaboard refiner shall continue to be put into effect in the Mid-Continent area.

The question is will we permit the Seaboard refiner to base the price of crude oil which we produce in our territory on the price of coal? The answer to that question is that we will permit him to do so just so long as we produce more oil than is needed for our own use. We will not permit him to do so if we limit our operations and development work and direct these same seaboard refiners to desist from any wanton exploitating of our territory at a time when the result of their activities will bring disaster upon us but which may net a profit to them.

The policy of the Atlantic seaboard refiner is to get away from purchasing as much oil as he can from the Mid-Continent area. In other words to purchase as little as possible from the Mid-Continent producers for he knows that when he is forced into the Mid-Continent market to purchase the bulk of his requirements that the market for crude oil must turn on light gravity rather than heavy gravity crude for Oklahoma, Kansas and North Texas crude is gasoline crude and not fuel oil crude. Therefore, the Seaboard refiner has made every effort in the last few years to develop oil fields in foreign countries. The Mid-Continent producer and refiner have no right to complain as to this policy of the Seaboard refiner. The Seaboard refiners are engaged in selling large quantities of oil to foreign countries and it is their privilege to go into foreign countries for their supply of crude.

Operators in the Mid-Continent area, whether they be producers, pipe liners, or refiners, should no longer look to the Seaboard refiner to help in stabilizing the crude and refined markets in this area. The burden is upon them. They have been told so by Seaboard refiners in no uncertain terms. The greatest factor in the Seaboard group has told them that so far as the Seaboard refiner was concerned that he would pay what he had to pay and that he would buy the production as cheap as he could, that there would no longer be any benevolent co-operation for the purpose of maintaining a stable market.

They have substantially laid down the proposition that they would come here and buy oil when it could be bought on a fuel oil basis and when they couldn't buy it on that basis they would go somewhere else to get it. With them it is a question of whether or not it is a buyer's or a seller's market. If the seller has the power he can make them buy on his basis. If it is a buyer's market they can make the producer sell on their basis and they have told him what the basis is. Therefore, it is up to the Mid-Continent producer, pipe liner and refiner to exercise every influence at his command to prevent the drill from being too freely used in this territory when there is an upward tendency in the price.

# Eastern Plants Buying Oklahoma Crude, Likely To Buy On Fuel Basis

**By Paul Wagner**
STAFF REPRESENTIVE

HOUSTON, Dec. 1

THE statement that Atlantic seaboard plants will not come into the Mid-Continent for crude except on the basis of competition of cheap fuel oil grades, appears on the face of that briefly stated conclusion to be about correct.

That fuel rather than refinable crude will become more and more a governing factor in the petroleum industry's price structure appears logical reasoning, provided one accepts as sound the recent pronouncement of Mr. Teagle that the cracking of fuel grades into gasoline will control in large measure future petroleum conditions.

Taking available crude as a whole and comparing it with a year ago, the quantity of what is normally considered gasoline crude is smaller now than it was then, notwithstanding that total production is, roughly stated, near a parity.

Were it found necessary it would not take many months to further expand cracking processes so as to recover a maximum of motor fuel from heavy materials and in the meantime plenty of storage stocks exist to supply any reasonable demands upon them. In fact, the industry in general might welcome a situation which would relieve it of at least 20 per cent of the more than 500 million barrels of over-all stocks now carried.

Inferentially the statement credited to Mr. Gray means that he believes seaboard plants will not extend their purchases in the Mid-Continent except under conditions mentioned. Otherwise his words appear to lose sight of the quantities of crude consistently moved out of the Mid-Continent through the Oklahoma Pipe Line Co., where it is loaded at the Standard of Louisiana works for account of the Standard of New Jersey.

Other Atlantic seaboard plants get crude through the Humble, the Sinclair, Gulf and Magnolia companies, although in some such cases as the Gulf these supplies are consumed within the cycle of the company's own operations. It can not be said, however, that this raw material does not move out of the Mid-Continent into Atlantic seaboard channels.

It is true that California interests are not disposed to contract crude with Atlantic seaboard plants for 1925 and that eastern managements were recently disappointed in not being able to negotiate them, but the fact remains that spot commitments will be available from the Pacific and it is not impossible that conditions will again require moving surplus crude away from California to prevent its storage stocks reaching more burdensome proportions.

Although Mexican light crude does not show indication of regaining pro-

portions above the roundly 100,000 barrels daily average largely available only to the Doheny interests since Toteco went into the "stripping" column, it is not improbable that the Panuco heavy oil district can about maintain its current average around 240,000 barrels daily.

With the Standard group drawing on such established channels as Humble, Standard of Louisiana and Marland out of the southwest it is improbable that continental pipe line shipments out of the Mid-Continent will be resumed in quantity next year; and Atlantic seaboard plants may be expected to begin importing possibly as much as 25,000 barrels daily average of Venezuelan crude in 1925.

## Crude Price Factors

### (From the Texaco Star)

Mr. Teagle, in an interview, and "The Lamp," in its last issue, both expressing the Standard Oil view, suggest that the oil industry, has reached a point where crude oil prices may be determined by fuel oil values rather than the selling price of gasoline.

This is undoubtedly true, as a possibility, but whether it is more than a possibility remains to be seen. When the world has a surplus of gasoline and a shortage of fuel oil the working of the theory will be seen.

The advantages of oil over coal is now so firmly established and universally recognized that coal prices do not stop fuel oil prices at the relative point which once applied.

Still coal can not be ignored. It becomes a factor, and a controlling factor at that, at a point somewhere on the scale. To illustrate: Fuel oil could not be expected to sell at $5 per barrel against coal at $5 per ton. On the other hand, if the supply of crude becomes so short that, even with modern refining processes, the demand for gasoline can not be supplied, which, let us say, would mean gasoline at 30 cents per gallon, tank wagon, it is easy to see that coal would be used more and fuel oil less, and that the gasoline price would then as in the past, control the price of crude.

All of this is fundamental, and a careful reading of the statements referred to will disclose that the obvious was not ignored. In other words, the question simply is, Have we arrived at the point? The writer has his doubts. For the moment we may be there, yes. But what does this or that situation mean in the oil business? The picture can change so completely in a twinkling that we are reminded of Mr. Teagle's excellent story of Moses Oates, the weather prophet. The increasing consumption of gasoline is bewildering if not staggering. Crude production is going down. There is no substitute for gasoline. There is a substitute for fuel oil We shall see what we see.

In the broad purview of things it is hard to get away from the cardinal thought that coal should be used where coal is suitable, and that the maximum conversion of crude oil into gasoline, despite the cost of cracking and all other items of manufacture, is in line with real economy. Of course conditions, for a time at least, may force upon us that which is abnormal, but the very fact that a situation is abnormal is the strongest guaranty that it will not endure. We hae heard of corn being burned for fuel. But the farmer who thus warmed his fireside at one time has usually lived to pay a high price for seed-corn. And so it goes.

The most important feature of our present situation is crude production, which, as we have seen a great many times, is influenced by prices paid. Notwithstanding the present ample daily production and the enormous stocks on hand, there is more than a passing chance that prices may be increased before increase is warranted. It would seem better to bear some risk of a shortage which incidentally would end the talk of fuel oil controlling the price of crude than to turn the "go" signal too soon. In saying this we are not pointing at anyone in particular. Nor do we claim infallibility as a guesser in the past. There is, of course, no permissible concert between the companies in the field, and if the one important company leads off others are forced to follow unless they are prepared to draw on stocks indefinitely and bid their producing connections good-bye.

## Gasoline Men Suggest Safety Code Changes

TULSA, Dec. 1.—The Association of Natural Gasoline Manufacturers is preparing to ask several changes in the proposed rules and regulations to promote safety in the oil industry in Oklahoma, which have been prepared by Claude Connally, state labor commissioner. The association will be represented at the general hearing which has been set at Oklahoma City for Dec. 16.

Strenuous objection is raised to the order requiring that rail guards clear all moving parts by at least 15 inches and not more than 18 inches. In some cases this ruling would force the entire rebuilding of the engine rooms of a number of plants which have rail guards with a clearance of 8 to 10 inches as provided by the manufacturers of engines.

The association will ask that the rule regarding covering of gauge glasses with 18 gauge ¼-inch mesh screening be modified to eliminate the necessity of the guard in case check valves are provided to prevent leaks when glasses crack.

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LIBERTY, N. Y., Dec. 1.—Ben R. Gerow, proprietor of Gerow's Garage, and a gasoline bulk station is having a third filling station built here. Mr. Gerow handles Sinclair products and reports a very successful business.

## Jobbers' State Officers Plan Meetings

CLEVELAND, Nov. 28.—It is probable that secretaries of state associations of petroleum marketers will meet in the future at least a day before the opening of the national association in order to prepare resolutions which the state organizations wish the national society to consider. This was decided on last week at informal meetings of presidents and secretaries of state associations who attended the convention of the National Petroleum Marketers Association in Cleveland.

Sectional meetings of jobbers were favored for large states in which it was inconvenient for jobbers from all districts to meet frequently. By holding the sectional meetings the jobbers can get together more frequently, Paul Hadlick, secretary of the Minnesota Petroleum Association, said. His association and the Michigan association of which James A. Gilmore is field secretary, hold such meetings.

Many of the state officers favored annual dues of $25 a year for a jobber with one station and an additional charge for each additional station. Some associations have a fee of only $10 a year.

Opinion varied concerning gasoline taxes. Several officers said they believed the taxes should be fought but others said it was useless to fight the taxes when the proceeds were to be used for road building and maintenance but that state associations should endeavor to see that no unfair tax legislation was enacted.

Fred H. Buehler, secretary of the South Dakota association, presided and Mr. Gilmore acted as secretary.

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### Tom Meece Leaves Champlin

TULSA, Nov. 29.—Tom Meece has resigned as sales manager for the Champlin Refining Co. at Enid, he announced here this week. He has accepted a position with the Atlas Petroleum Co. at Kansas City, in charge of the gasoline sales department. Leo Snyder, who has been with the Champlin company for several years, has succeed Mr. Meece as manager of tank car sales.

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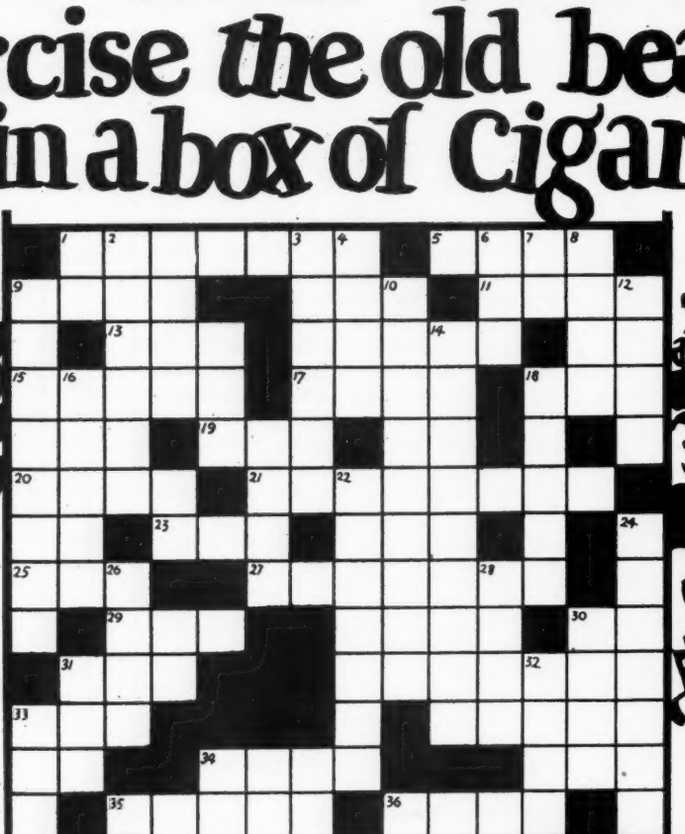
### Sells Spring Hill Acreage

SHREVEPORT, Nov. 29.—Transfer of a half interest in gas rights on 3700 acres in the Spring Hill district of north Webster parish at a consideration of $40,000 by Lloyd Harris to Belchic & Laskey, local oil operators, was announced during the week. Four gassers now are on the land on which, it is understood, there will be extensive explorations. Mr. Harris retained oil rights on the property, which now has two producers, Pine Woods Lumber Co. Nos. 3 and 4.

# Have a smile with us—
# Excercise *the* old bean—
# and win a box of Cigars



**HOW TO SOLVE CROSS-WORD PUZZLE**

The numbered squares are the starting points for words extending horizontally or vertically or both. One letter to a square. Words end at first black square encountered on border of puzzle. Pick out a word that fits a given definition and space. This gives you a clue to other words that cross it, and they in turn to still other words.

Each definition suggests a word possessing the exact number of letters to fit the white spaces allotted to it.

## Vertical

1. Personal Pronoun.
2. First and fourth word of our advertising slogan.
3. A fuel used for cleaning.
4. Something not needed in our gasoline.
6. H. 2. O. in congealed form.
7. Abreviation of an oil producing state.
8. Something all salesmen should have.
9. A place where crude petroleum is converted into many products.
10. A technical term used in lubricating oil specifications.
14. A sharp instrument. (Misspelled by one letter.)
16. Something needed before drilling for oil.
18. Something we never have enough of.
22. What this company is noted for.
24. A fluid used for cleaning.
26. Descriptive term applied to our motor oil of unusual excellence.
28. A place where crude petroleum is stored.
30. Last word of our advertising slogan.
31. A card you like to hold if you have enough of them.
32. Where there are lots of people.
33. An important test for lubricating oils and kerosene
36. Abreviation for a corporation.

## Horizontal

1. First word in the name of this company. A complete refinery in the Mid-Continent Field.
5. A product of this company (pl).
9. To place dependence on.
11. Small containers for motor oil.
12. How you want to feel about a product you sell.
13. A white by-product of petroleum.
15. An important test for lubricating oils.
17. Something that is done to determine quality of oils.
19. Something you knock off your cigar.
20. A well known automobile.
21. An important product refined from crude petroleum.
23. Second word of our advertising slogan.
25. Slang for reputation.
27. Something desirable in a line of motor oils.
29. Highbrow stuff. Something we know little about.
31. We used to have it until Mr Volstead knocked it out.
34. Third word of our advertising slogan.
35. First half of name of town where we are located.
36. Second half of name of town where we are located.
37. State where headquarters and refinery of this company is located.

Everybody's doing it---the Cross-Word Puzzle. Here is one from a regular advertiser in N. P. N. The first five jobbers or dealers who send in the correct solution will receive with our compliments a box of good cigars. The answer together with the names of the winners will be published in the December 17th issue of N. P. N. Answers must reach us not later than December 10th. Our name and address is in the puzzle---there is where to send your answer.

# Spot Refinery Market Proper Basis For Marginal Contracts

PRESIDENT NICHOLAS of the marketers' association is offering the oil industry an advanced step in his suggestion of a form for a marginal contract on gasoline between refiners and marketers. His proposed form has in it the elements which would make the farce of margins of the past two years impossible, and, we believe, make for a better price for the refiner and, let us hasten to add, without any increased cost to the consumer.

Here are the most essential points of relationship between refiner and marketer which must be considered in any contract on gasoline.

1. A contract is highly desirable to both parties, as it insures steady and economical manufacturing to one and supply to the other. Both parties to a contract can go about the activity for which they are really in business, one the manufacturing of gasoline and the other its sale to the public.

2. The commercial relation between refiners and marketers everywhere is such that a standard form of contract is easily possible and most desirable. It's a subject that can be best discussed collectively, and quickly disposed of.

3. Any contract must be fair at all times to both parties and economically sound. Then it can and will be lived up to or enforced.

4. Any contract must take into consideration the competition of selling on the open market and of buying on that same market. This means it must be able to reflect within reason the operation of the law of supply and demand on the product actually involved.

5. If a contract would guarantee a marketer a fixed margin, then such terms and conditions must be set up that the marketer is not invited to go out and continuously cut the market at the expense of the refiner, merely to increase his own gallonage and his own profits.

The first thing the industry must do is get a contract that can, and will be enforced and lived up to, that means a sound economic contract. One of the greatest curses of the oil business has been the way companies cancel and ignore contracts.

The instances one hears of violated contracts between refiner and marketer are simply incredible. Men and companies of the highest standing think nothing of reporting a car short in tests or contents or telling some other lie, simply because they can buy cheaper somewhere else,—or sell at a better price. Neither refiner nor marketer have any monopoly on this most despicable of practices.

As long as this crooked work continues no man can have any confidence in any other man in the oil industry. We have long urged the refiners' and marketers' associations to undertake a co-operative effort to enforce contracts in the courts, and thus take the burden and possible embarrassment off the individual company. If a few contracts were taken to court by the two leading associations and enforced regardless of how they hurt refiner or marketer, it would have a good effect on the whole industry. Contracts would mean something after that.

President Nicholas in his remarks in support of his form of marginal contract to his members at the Cleveland meeting, criticised trade papers for not having commented on his inserting in the form a provision for arbitration of disputes. If Mr. Nicholas will pardon us, arbitration in these editorial columns is such an old story that we have almost come to consider it impossible of attainment in the oil business.

The writer personally fought for and wrote, after studying arbitration systems in effect in many industries in this country, the first form of arbitration agreement and machinery that he knows of which was suggested to the entire oil industry. That was about a dozen years ago and it was incorporated in the "Rules Governing Trades in Petroleum and Its Products" issued by the pioneer of Mr. Nicholas' association. Ordinary disputes should be arbitrated but the oil men seem to prefer broken contracts and constant snarling at each other with occasional law suits, to a quick and business-like settlement.

We hear comment in the oil industry and among the public about alleged misconduct in high places in the oil industry and the statement is freqently made that we need men of high honor as leaders, etc., etc. But what good will it do the industry to have such leaders—assuming for the sake of argument we haven't got them—if these highly moral leaders are called on to lead a gang consisting in part of contract welchers, a gang whose word isn't good no matter how you may get it?

Each single individual in the oil business has got to stir up a real desire for a bit of righteousness down in his own heart before he can criticize any one else for a lack of it. Each man will have to look after his own personal business conduct a bit more carefully than many have, before any great advancement can take place in the industry.

So, getting back to the point, there must be a contract that not only can be but will be enforced, a contract from which the least possible deviation will be sought by either party.

### Based on Open Market

We have been unable to find any suggestion for drawing a contract that might stand up without its taking into consideration the open market at the refinery for gasoline. Any form of contract that doesn't include the open market price is doomed to early failure and to cause further trouble for the industry.

We have had years of the price being based on the tank wagon market. That worked fairly well as long as the big integrated companies were buying part of their requirements in the open market and thus helping to keep it balanced. Their withdrawal from the open market simply brought on the trouble all the sooner.

Such a contract is economically unsound.

Basing the contract on so-many times the price of crude is stating the same proposition only the other way around. The big companies have always based their tank wagon price on the price of crude. When crude changed the tank wagon price changed. The industry will get into just as much trouble with marginal contracts based on crude as when based on tank wagon markets, whenever there is a period of oversupply.

As long as there is an open refinery market for gasoline where any man, be he Governor McMasters, a soap company, garage man or legitimate oil company can go in and buy his requirements or any part thereof, that market must be taken into consideration in making contracts. One would be just as much justified in ignoring it as not to connect the drive shaft on one side of a railroad locomotive to the drive wheels but let it bang around where it would, and still

think that he had a real engine. The oil industry can't let this open refinery market fly around loose but what it will do a lot of damage to the industry, just as a loose drive shaft will damage an engine.

If the oil industry will hook up this loose drive shaft, then it will do its work in the proper place.

It's useless to figure what shape the refiner would have been in the past year if contracts had been based on the open refinery market, for the open refinery market had no attention and flopped where it would. Had all the industry's contracts been based on it, in one way or another, the whole industry would have been watching it, and it would not have been so damaging. We might have had a lower refinery market earlier but if we had it would not have lasted so long, for every refiner immediately on losing money would have shut down to the point where that market came up to a reasonable figure.

It's useless to argue that this open refinery market carries only 20 per cent of the gasoline made—we use another's estimate and don't vouch for it—and should not be allowed to dominate the majority in the business. To argue this is to argue against all the laws of economics. It's the surplus that counts on a market, or the lack of it, not the total quantity that the market is absorbing. It's the few per cent that men can't buy or can't sell that fixes the price and always will as long as we have freedom of competition. The big companies can afford to ignore a small surplus to a certain extent but if that surplus is aggressively handled against them they can't shut their eyes to it.

Consider the facts. The industry has some 250 refiners the country over who are selling all or part of their gasoline output to some 6000 to 7000 jobbers spread from coast to coast and which in some territories are doing more business than the big companies. How can the buying and selling of all these men be disregarded?

Right now the open market price is damned because it has been low. What when it is high, during a period of comparative shortage? And high it may be some day. Then the big companies may be mighty glad to have it help justify sufficient prices to the public to get the maximum search for new crude deposits.

Until this world is ordered otherwise, a free operation of the law of supply and demand is not only going to obtain but it will be the most desirable in the long run.

Now as to guaranteeing the marketer a minimum margin. The more nearly the Independent marketer and the Independent refiner can work as two factors of an integrated business, the better for both and the public as well. It's inconceivable that the big integrated companies will, over any length of time, sell petroleum products at less than the cost to them of crude, transportation, refining, marketing and a fair profit on all' operations.

There may be times when they will be taking a profit on low crude from storage rather than run high cost new crude, but the probabilities of that with the high costs of storing crude, are exceedingly slim. There may be times when they may hold the tank wagon price down to get some gallonage. But the big companies are being operated for the benefit of their stockholders and those stockholders are interested in only one thing and that is cash dividends. So over any reasonable length of time they can be depended on always to try and fix a tank wagon market that will be profitable.

Yet during some period of high crude cost due to shortage, it's conceivable that the refinery price for gasoline may go above the tank wagon price for a time as it has in the past once or twice. It can safely be assumed that any Independent refiner can always operate at substantially the same cost as any big refinery. That has been true so far and it's a safe assumption to make for the future. Hence, during a period of shortage, an Independent refiner, if he gets net for his products what is credited to the refinery of an integrated company, is making reasonable money. It won't be necessary for an Independent refiner to take full advantage of a skyrocketing of the tank car price of gasoline.

Therefore, it's conceivable from a standpoint of sound economics that if a jobber agrees to give the refiner some benefit from any excessively wide margin in the tank wagon market, the refiner can and should give the jobber some benefit of any excessively wide margin in the tank car market. And bear in mind that either of these margins will be due to the tank car market price getting out of line with what might be called the normal price of crude or the normal tank wagon price.

Mr. Nicholas' proposed contract form seeks to take care of this by guaranteeing the marketer a minimum of 3 cents a gallon and having him split fifty-fifty with the refiner on all over 4½ cents a gallon gross margin between the laid down price of the tank car and the tank wagon price as at present known. We believe the only chance for argument here is whether the particular figures suggested are fair but we can see no dispute of the principal involved.

Now as to the alleged illegal paragraph of Mr. Nicholas' that the marketer agrees not to be the aggressor in the cutting of prices. We can't join in the general disapproval of it. In fact we don't think it is particularly material either way. If the minimum guarantee is put at a break-even figure, or a little bit less than a break-even figure, say so the jobber will have to stand a loss of half a cent a gallon, few jobbers will undertake material damage to a market with any fancy price cutting.

If they do cut a wide margin no harm will be done for that is what they are really supposed to do under this contract or any other but they will see to it that the cutting stops, and it will stop automatically, as the tank wagon margin gets down towards an unprofitable amount. What we have had the past two years are excessively wide margins guaranteed the marketer regardless of how he cut.

But under Mr. Nicholas' proposed contract the jobber would have some money at stake and that will be as it should be.

If the whole oil industry adopted this proposed form of contract tomorrow there probably would be misunderstanding and maybe even some grief until the industry got accustomed to it. The tank car market might jump around in all sorts of ways for a while until people got their bearings but we doubt if any real harm would be done anyone. The industry has been so badly burned the past two years that no one is going to venture very far from shore for some little time. In the first place his financial raft won't let him.

Now is a most excellent time to switch this part of the oil industry to a sound and equitable basis of dealing. It lies within the province of the refiner's associations and marketer's association to get together. The needs of both demand immediate action. There is no reason for long drawn out bickering nor bitterness of argument. The facts as to what should be done are clearly established. All the two interests have to do is to get together sanely. An hour's discussion should be enough to settle the details, in fact five minutes should do.

If these officers will meet at once and in the proper spirit the subject can be settled in a few minutes and the oil industry go on about its business assured of some measure of peace and good will and, we believe, some profits.—W.C.P.

# Announcement

BEGINNING January first all of our Asphalt Products—including Paving Asphalt, Roofing Flux and Road Oils—will be sold direct through our own Asphalt Department, under the management of Mr. Fisher Jones.

We have a large present and potential production of light and heavy Mexican Crude, with modern refineries at Tampico, Mexico, and New Orleans, thoroughly equipped for the manufacture of Asphalt Products.

Adequate tank tonnage assures quick transportation of raw materials to this country, while a sufficient supply of properly equipped tank cars puts us in an unexcelled position for supplying the trade economically and without delay.

All inquiries will be given prompt attention.

MEXICAN PETROLEUM CORPORATION
120 BROADWAY, NEW YORK

***World's Largest Gusher***

Cerro Azul No. 4, Mexico, property of Mexican Petroleum Corporation, flowing at the rate of 260,858 barrels of oil daily.

# Earl Oliver Resigns As Official Of Marland Oil Co.

PIONCA CITY, OKLA., Nov. 28 EARL Oliver, a director in general charge of economics for the Marland Oil Co. (Delaware) and vice-president and General manager of the Marland Oil Co. of Mexico, has announced his resignation from those organizations to take effect Jan. 1st. His purpose is to engage in the oil business on his own account.

Mr. Oliver has been connected with the Marland organizations since 1919. For two years prior to that time, he headed the land department of the Roxana Petroleum Corp. of Oklahoma. His first active work, upon coming with the Marland companies, was the organization of an exhaustive study of all branches of the petroleum industry as a basis for the program of expansion then under consideration by Mr. Marland. Mr. Oliver was given carte blanche to draft every man in the oranization and to engage experts elsewhere. This he did to the extent that a force of fifty persons was constantly engaged for a period of several months assembling data on every phase of the industry.

Earl Oliver

Upon its conclusion the results of that study were assembled and perpetuated through establishing what was designated as a Department of Economics. Such a department was, at that time, somewhat unique in the industry, but has since become more generally accepted as a convenient and necessary managerial adjunct. The permanent organization was placed under the direct charge of C. C. Osborn, one of the experts secured from the United States Geological Survey, for the original work, although Mr. Oliver has continued, until this time, in general charge of this branch of the company's research. In addition, he was in charge of the company's foreign activities, and during the past year has functioned as chairman of an operating committee composed of operating heads of the several branches of the Marland organization.

His specialty has been the study of producing properties to the extent that he has become an authority on values. He holds a degree in law from Transylvania University and was admitted to the bar but did not engage in the practice of that profession.

## Tide Water Sales Staff To Have Convention

SAN FRANCISCO, Nov. 29.—The entire sales staff of the Tide Water organization will meet in San Francisco on Dec. 8, 9, and 10 for the third annual convention, to review activities of 1924 and discuss sales and advertising plans for 1925, according to F. M. Rowles, western manager of the Tide Water Oil Sales Corp., with headquarters at San Francisco.

Among the visitors from the head offices at New York will be John F. Plummer, president; F. H. Dickison, sales manager; and A. W. Sullivan, advertising counsel, all of whom will address a number of large commercial clubs in the Bay district, besides speaking at their own sessions.

C. H. Pruner, North Pacific district manager, will lead his northern sales organization and deliver a review of business conditions in the Pacific northwest.

C. J. Kay, South Pacific district manager will have charge of the delegation from southern California, and a number of surprises have been promised by Mr. Kay and his men to liven up the convention.

R. D. Phelps, Central Pacific district manager, with aid of the San Francisco sales personnel, will be hosts and conduct out-of-town visitors on a sightseeing trip around the city.

Convention arrangements are in the hands of F. M. Rowles and Harold R. Deal, western advertising supervisor. A number of social features have been planned with an entertainment and dance on the evening of Dec. 8, at which time local talent from the various districts will vie for premier honors.

# Oklahoma Production Still Increases; Cromwell Again Extended

By A. F. Hinton
STAFF REPRESENTATIVE

TULSA, Nov. 19.

THE principal events of interest in Oklahoma production circles during the past week included a new extension well at Cromwell, a continuation of the growth of the Papoose field toward a major standing, a steady increase in production from the deep sand at Tonkawa, and another gain in crude output by the state as a whole. All of which is news of a somewhat depressing character for those who have been bulling the crude oil market of late.

Oklahoma's production increased for the second successive week, going up this time 3821 barrels to an estimated daily average of 525,435 barrels during the seven-day period. While this is only about one-fourth of the gain registered during the preceding week, it is nevertheless a substantial increase, and puts the state's output back to within 25,000 barrels of its peak figure.

Thus the state is producing now about 95 per cent as much crude as it was at its highest point in September, in spite of the fact that crude prices have been reduced twice for a total of 40 cents a barrel, since that time. It is interesting to note that at this time last year, production had declined 27 per cent from its highest figure, forced downward by radical price reductions and proration.

### New Cromwell Extension

Just at the time when it appeared that Cromwell had about done its bit, since completion of a large number of wells in the past few weeks in the northwest part of the field had failed to put the field's production closer than to within 15,000 barrels of its previous peak, all complacent estimates as to its future performance again must be revised as the result of the drilling in of still another extension well on the north side.

The new well, known as Sinclair Oil & Gas Co. No. 1 Yarbrough, is located in the C SW¼ NW¼ NE¼ of 4-10-8, and is slightly more than three-quarters of a mile north of the famous Central National Oil Co. well in the SE¼ SE¼ of the same section, which extended the field a full mile when it was drilled in several months ago. The new Sinclair well also is more than a quarter mile north of the Laurel Oil & Gas Co. well in the SEc SW¼ NW¼ of 4, which since its completion has been the farthest north producing well in the field.

While the Laurel well never was a large producer, and has been generally regarded as marking the field's northwest limit, the new Sinclair well came in at the rate of nearly 100 barrels an hour, and at last reports was flowing 72 barrels an hour by actual gauge, or about 1700 barrels daily. Although the Laurel well was about 80 feet lower structurally than the Central National well, it was still somewhat higher than the Hoffer well down in section 16, which was virtually the discovery well of the field. It is possible that the comparative failure of the Laurel well might have been due to local sand conditions and, in the light of the new Sinclair success, that territory well beyond the Laurel well may be found highly productive. The Sinclair well got the sand at 3369 feet and has been drilled to 3419 feet.

### Tonkawa Deep Sand Increasing

Two new wells were added to the list of those producing from the deep sand at Tonkawa during the week, bringing the total to 48, and the output from this formation increased steadily until at the end of the week it had reached almost to 88,000 barrels daily. The field as a whole averaged 106,895 barrels daily, a gain of 3,000 barrels over the preceding week.

The two new wells added to the deep sand list were the Gypsy Oil Co. No. 43 Shawver, in the SW¼ NW¼ of 2-24-1W, an old well drilled deeper, which made 1925 barrels the first 24 hours in sand topped at 4082 feet, and the Comar Oil Co. No. 4-W Beverlin, in the C NE¼ SE¼ NW¼ of 34-25-1W, which made 2420 barrels the first 24 hours in sand found at 4101 feet and drilled to 4133 feet.

### Current Production

Tonkawa, with its increase of 2996 barrels, was the principal factor in the increase shown by the state as a whole, but it was closely followed by Papoose, which jumped 2035 barrels to a daily average of 29,565 barrels. Tonkawa's output came from 717 wells, an increase of two over the preceding week, while Papoose now has 64 wells, a gain of four. Cromwell added nine new wells to a new total of 194, but remained almost unchanged in production, gaining only 165 barrels to a daily average of 47,880 barrels.

Burbank, with one new well, or 1645 in all, fell off 430 barrels averaging 72,260 barrels daily. Of this amount, 58,555 barrels are coming from 1450 wells on the Osage county side of the line, while 13,705 barrels are produced in the Kay county extension, from 145 wells. Wewoka decreased slightly, dropping 100 barrels to 12,720 barrels daily, and reported no new wells, its total remaining at 94. Stroud also had no new wells, its 63 producers averaging 3760 barrels daily, a loss of 525 barrels as compared with the preceding week.

Tonkawa had 46 deep sand wells producing for six days and 48 for one day. There was considerable fluctuation in the output from this horizon during the week, as usual, but the total at the end of the week was nearly 5000 barrels greater than at the start. The average daily production of the deep wells over the week was 85,109 barrels, as compared with 80,849 barrels last week. Performance of these wells by days during the past week was as follows:

| | Production | No. Wells | Average Per well |
|---|---|---|---|
| Nov. 22 | 83,017 | 46 | 1,805 |
| Nov. 23 | 84,935 | 46 | 1,840 |
| Nov. 24 | 85,410 | 46 | 1,860 |
| Nov. 25 | 85,779 | 46 | 1,870 |
| Nov. 26 | 84,651 | 46 | 1,840 |
| Nov. 27 | 84,064 | 46 | 1,825 |
| Nov. 28 | 87,919 | 48 | 1,830 |

### Wells Completed

In Oklahoma, during the week just closed, 77 wells were completed, of which 45 were oil wells, six were gas wells, and 26 dry holes. This compares with last week's report of 82 completions, divided 48 oil wells, 12 gas wells, and 22 dry holes.

The 45 oil wells reported in this week's report were much smaller on the average than those reported last week. Their total initial production was 18,263 barrels, an average of 405.8 barrels per well. Last week, 48 wells brought in 31,432 barrels of new production, with a per well average of 654.8 barrels, a very high figure.

Completions reported from Kansas this week totaled 14, of which four were oil wells, two were gas wells, and eight were dry holes. Last week, there were 16 Kansas completions divided five oil wells, and 11 dry holes. The four wells included in this week's report had total initial production of 1160 barrels, or an average of 290 barrels per well. Last week, five wells accounted for 520 barrels of new production, with a per-well average of 104.0 barrels.

### Papoose Developments

The latest big well in the Papoose field is the No. 2 Williams of the Indian Territory Illuminating Oil Co., Barnsdall Oil Co., in the C SE¼ SE¼ SE¼ of 34-10-9, one location more than a half-mile west of the Slick discovery

well in the SWc SE¼ of 35. This new well got the sand at 3305 feet, where it made about one million feet of gas, first oil two feet deeper, and drilled to 3322½ feet, where it was making about 80 barrels an hour at last reports.

Gypsy Oil Co. No. 2 Williams, in the SWc SE¼ of 34, is trying to drill through the Gilcrease sand, which was topped at 3042 feet and had been drilled to 3060 feet at last reports, where it was showing good for about 200 barrels. This company is reported to have purchased the N½ NW¼ of this section for a consideration of $30,000 cash.

The farthest east well yet drilled in the Papoose field, Independent Oil & Gas Co. No. 1 S. Alexander, in the NWc E½ NE¼ of 2-9-9, reported last week, is holding up well at 1600 barrels daily and is now ten days old. It got the sand from 3344 to 3353 feet. The Prairie well in the SWc N½ SE¼ of 35-10-9, which came in nearly three weeks ago, was deepened two feet during the week to 3325 feet, and is making 2965 barrels daily.

## Drilling Operations in Oklahoma, Kansas and N. Texas Nov. 29

| | Nov. 29——Week Ending——Nov. 22 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Loc. | Rigs | Drg. | S.D. | Total | Loc. | Rigs | Drg. | S.D. | Total |
| **Oklahoma** | | | | | | | | | | |
| Burbank | 1 | 2 | 25 | ... | 28 | ... | 2 | 31 | ... | 33 |
| Other Osage | 9 | 14 | 47 | 14 | 84 | 10 | 14 | 45 | 16 | 81 |
| Bristow-Cushing | 5 | 20 | 85 | 35 | 145 | 6 | 16 | 84 | 38 | 144 |
| North Oklahoma | 10 | 18 | 64 | 74 | 166 | 11 | 17 | 67 | 69 | 164 |
| South Oklahoma | 10 | 20 | 90 | 63 | 183 | 12 | 14 | 99 | 66 | 191 |
| Muskogee | .. | 6 | 29 | 28 | 63 | ... | 8 | 26 | 30 | 64 |
| Okmulgee-Bristow | 2 | 46 | 88 | 36 | 172 | 2 | 41 | 98 | 40 | 181 |
| Tonkawa | 3 | 11 | 76 | 13 | 103 | 8 | 8 | 78 | 12 | 106 |
| Wewoka-Cromwell | 25 | 37 | 237 | 44 | 343 | 21 | 47 | 223 | 47 | 338 |
| Total Oklahoma | 65 | 174 | 741 | 307 | 1287 | 70 | 167 | 751 | 318 | 1306 |
| **Kansas** | 57 | 70 | 222 | 114 | 463 | 53 | 75 | 211 | 110 | 449 |
| **N. Texas** | | | | | | | | | | |
| Eastland County | .. | 3 | 17 | 7 | 27 | ... | 1 | 19 | 8 | 28 |
| Stephens County | .. | 12 | 36 | 28 | 76 | ... | 22 | 34 | 28 | 84 |
| Texas Panhandle | .. | 10 | 30 | 11 | 51 | ... | 10 | 32 | 9 | 51 |
| Mexia District | .. | 36 | 21 | 6 | 63 | ... | 15 | 14 | 8 | 37 |
| E. Texas Wildcats | .. | 17 | 7 | 40 | 64 | ... | 10 | 13 | 38 | 61 |
| W. Texas Wildcats | .. | 32 | 74 | 47 | 153 | ... | 39 | 55 | 61 | 155 |
| Wichita Falls | .. | 61 | 122 | 54 | 237 | ... | 61 | 110 | 56 | 227 |
| Total N. Texas | .. | 171 | 307 | 193 | 671 | ... | 158 | 277 | 206 | 641 |
| GRAND TOTAL | 122 | 415 | 1270 | 614 | 2421 | 123 | 400 | 1239 | 634 | 2396 |

Several new wells are nearing depths at which they may be expected in within the next few days. Among them is the T. B. Slick No. 2 McKay, in the NEc NW¼ SE¼ of 3-9-9, which is pulling the big pipe after having topped the Papoose sand at 3310 feet. Cosden Oil & Gas Co. No. 8 Alexander, in the NWc SW¼ NW¼ of 3, topped the sand at 3292 feet, and also is pulling the big pipe preparatory to drilling in.

Phillips Petroleum Co. has started construction of a large natural gasoline plant in the NW¼ of 3-9-9, and is

## Completions In Oklahoma And Kansas Week Ending November 29

### OKLAHOMA

#### Caddo County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Center | 2 | NEc 8-6N-13W | No hole | |

#### Carter County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Humble | 4 | C NW NW SE 28-1S-3W | 3368–3396 | 154 |

#### Carter County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Skelly | 2 | C SE SW NW 23-2S-3W O.W.D. | 2199–2246 | 40 |
| Twin State | 4 | C SW NE SW 23-2S-3W | 2543–2597 | 150 |
| Magnolia | 5 | C SW NW SW 24-2-3WO.W.D. | 1858–2000 | 10 |
| Twin State | 6 | C NW NE SW 25-2-3W | 2813–2834 | 150 |
| Love-Turman | 7 | C NE NW NW 34-2-3WO.W.D. | 3029–3191 | 6½M |
| Schermerhorn | 6-B | C SE SW SW 32-2S-2W | 2375–2379 | 13 |

#### Creek County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Madden-Madden | 1 | SWc 13-17N-8E | 2279–2323 | 100 |
| Savoy | 3 | SEc NW NE 23-17N-8E | 2280–2322 | 60 |
| Pure | 2 | NWc NE SW 32-17-8E | 2821–2830 | 87M |
| Cumberland | 1 | SWc SE SW 22-15N-10E | 2697–2731 | 125 |
| Phillips | 1 | SWc NE 24-14N-9E | 2925–2967 | 925 |
| Aztec | 4 | NEc NW NE 11-14N-8E | Aband. | |
| Margay | 3 | NWc 14-14N-8E | Aband. | |
| Pulaski | 1 | SEc NE SE 2-16N-11E | T. D. 2324 | Dry |

#### Creek County—Mounds

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Hancock-West | 1 | Lot 1, Blk 21-8-16N-12E | Aband. | |
| Noble | 1 | Lot 7, Blk 12, 8-16-12 | Aband. | |
| Dixie | 1 | Lot 6, Blk 19 | 2021–2163 | 150 |
| Stout et al | 1 | Lot 13, Blk 21 | 2101–2160 | 25 |
| Wilcox | 1 | Lot 8, Blk 30 | 2040–2063 | 40 |
| Suppees et al | 1 | Lot 5 | 2032–2065 | 10 |
| Suppees et al | 2 | Lot 5 | 2065–2077 | 250 |
| Jones et al | 1 | Lot 7, Blk 21 | 2130–2170 | 25 |

#### Custer County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Magnolia | 1 | NWc SE 17-13N-14W | T.D.3695 | Dry |

#### Hughes County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Wilcox | 1 | C SE SE NW 17-9N-9E | T.D.3165 | Dry |

#### Kay County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Wentz | 46 | C NE SE SW 34-25N-1W | 4270–4290 | 3350 |
| Blackwell | 3-C | C NW SE SE 34-25-1W | 4018–4078 | 2140 |

#### Lincoln County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Berry et al | 1 | NEc SW NE NW 12-14N-6E | 4058–4120 | 30 |
| Willis et al | 1 | SEc SW NE NW 12-14N-6E | T. D. 3572 | Dry |

#### Muskogee County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Johnson | 1 | SWc SE 19-14N-19E | 820–831 | 3M |
| Williams | 4 | C W½ NW NW 17-15N-17E | 1385–1386 | 5M |

#### Noble County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Comar | 6 | C NW NE NE 3-24N-1WO.W.D. | T.D.3604 | Dry |

#### Okmulgee County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Beggs O. & G | 2 | NWc SE SW 3-15N-11E | 1870–1910 | 30 |
| Wheeler-Wilder | 1 | SWc SE 5-15N-11E | 3040–3044 | Dry |
| Mid-Kansas | 1 | NWc NE 5-14N-13E | T. D. 2780 | Dry |
| Jordan | 2 | C SE NW 32-14N-14E | No hole | |

#### Osage County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Marland | 10-B | SW NE NE SE 20-23N-8E | 2313–2342 | 30 |
| Carter | 11 | SW SE 16-26N-6E | 2863–2953 | 410 |
| Gynupp et al | 1 | SWc NE 6-20N-10E | T. D. 2720 | Dry |
| Gypsy | 1 | SEc 28-25N-8E | T. D. 2812 | Dry |

#### Osage—Burbank

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Carter | 12 | C SW NE NW 11-27-5E | 2963–3032 | 350 |
| Phillips | 7 | C NW SE SE 11-27-5 | 2996–3051 | 300 |
| Phillips-Skelly | 13 | C NE SE SE 26-27-5 | 2935–2988 | 20 |
| Skelly | 2 | C SE NE NW 35-27-5 | 2982–2970 | 15 |

#### Pawnee County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| O'Haver et al | 2 | NEc SW NE 5-23N-5E | 3206–3029 | 50 |
| Reese et al | 4 | NWc NE NE 17-20N-8E | 2671–2702 | 100 |
| Galvez | 5 | CEL SE NE 17-20-7E | 2613–2640 | 275 |
| Rex | 4 | NWc SW NE 20-21-8E | T. D. 3235 | Dry |
| Adamson et al | 2 | CSL NE SW 32-21-8 | T. D. 2650 | Dry |
| Westerly | 1 | SWc 22-20N-6E O.W.D. | T. D. 2769 | Dry |

#### Seminole County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Waite Phillips | 2 | CNL SE NW SE 4-10N-8E | 3408–3463 | 2650 |
| Waite Phillips | 3 | CNL SE NE SE 4-10-8 | 3351–3430 | 900 |
| Gypsy | 6 | C SW SE NE 9-10-8 | 3362–3490 | 50 & 40M |
| Carter | 1 | C NE NW NE 9-10-8 | 3337–3425 | 1006 |
| Carter | 1 | C NE NE NW 9-10-8 | 3446–3519 | 765 & 2M |
| Roxana | 2 | C SW SE NW 10-10-8 | 3309–3468 | 354 & 20M |
| Carter | 2 | C SE NE SW 10-10-8 | 3384–3544 | 200 & 5M |
| Ramsey | 1 | C NE NW SE 31-8N-8E | 3230–3241 | 1031 |
| P. & R | 2 | C SE SW NE 31-8-8 | 3252–3265 | 895 & 10M |
| Amerada | 2 | C SE SW NE 29-8N-8E | T. D. 3194 | Dry |
| Dixie | 4 | C NW NE SE 29-8-8 | T. D. 3110 | Dry |
| Homaokla | 3 | C NE NW SE 29-8-8 | 3202–3242 | Dry |
| Prairie | 3 | C SE SW SE 8-10N-8E | 3473–3526 | 300 |
| Prairie | 4 | C SE NE SE 8-10-8 | 3435–3573 | 525 |

#### Stephens County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Lone Star | 4 | SEc SW SW 19-1S-8W | 1588–1730 | 10 & 1M |
| Frates | 1 | CSL SE SW 6-2N-4W | T. D. 3005 | Dry |
| Goldenline | 1 | SEc NW SW 9-1S-9W O.W.D. | T. D. 2990 | Dry |

#### Tulsa County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Regal | 1-A | SEc SE 36-19N-11E | 1726–1736 | 6M |
| Thornton et al | 1-A | CSL SE SW 20-19N-12E | 2066–2092 | 40 |
| Sax-Fox | 4 | SWc NE NW SW 33-18N-14E | 1512–1542 | 25 |
| Frates | 2 | NWc SW SW NE 1-17N-14E | 1269–1284 | 85 |
| Wade-Findley | 2 | NEc SE SE NW 1-17-14E | 1263–1271 | 100 |
| Broken Arrow Gas | 4 | NEc NW NE SW 14-18-14 | T. D. 1384 | Dry |
| Green et al | 1 | CNL NW NE 26-18-14 | T. D. 1365 | Dry |
| Noble | 1 | C NW NW 31-17-13E | 2316–2338 | Dry |

#### Wagoner County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Carder | 2 | SWc SE NW 17-17N-16E | 1007–1021 | 6M |

### KANSAS

#### Cowley County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| T. B. Slick | 1 | SWc NE 19-32-3E | 3224–3430 | 500 |
| Gypsy | 1 | SWc 3-33-3E | 3524–3529 | 400 |
| Nathon-Brimm | 2 | NWc NE 20-34-4E | 643–662 | 7M |
| Waite Phillips | 1 | SEc 4-33-3E | T. D. 3614 | Dry |

#### Greenwood County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Pryor-Lockhart | 1 | NWc NE SE 13-22-10E | 2080–2134 | 50 |
| Smith-McGinnis | 1 | SWc NW 32-24-15E | T. D. 1645 | Dry |
| Millikin | 2 | C NW SW SE 22-22-11E | 1929–1944 | 100 |

#### Montgomery County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| McMannis-Gibson | 1 | NEc SE NW 35-31-16E | T. D. 1125 | Dry |
| Red Bank | 1 | NEc NW 24-32-16E | T. D. 1432 | Dry |

#### Neosho County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Burton-Aken | 1 | NWc SE 35-29-19E | 670–673 | ½M |

#### Rice County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Emerson-Carey | 1 | NEc 7-20-6W | T. D. 3565 | Dry |

#### Russell County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| P. & R | 1 | NWc SE 24-12-15W | T. D. 3635 | Dry |
| Garfield Buel | 1 | SEc NE SW 1-14-11W | T. D. 3601 | Dry |

#### Woodson County

| Company | Well No. | Location | Depth | Init. Prod. |
|---|---|---|---|---|
| Ark. Fuel | 1 | NEc SE SE 1-24-14E | T. D. 1985 | Dry |

planning to manufacture about 20,000 gallons daily. Together with the gathering lines and other appurtenances, it will represent an investment of nearly one million dollars when completed. The gasoline will be delivered through pipe line to loading racks at Wetunka, nine miles southeast.

### Roxana Pool

In the so-called Roxana pool about six miles northeast of the Wewoka field, the Roxana Petroleum Corp. No. 1 Chupco, in the SWc SE¼ SW¼ of 1-8-8, a north offset to the discovery well, is showing for a 300 barrel well, with about 70 million feet of gas. It got the sand 3429 feet, gas at 3437 feet and began spraying oil at 3442 feet, since when it has been drilled one foot deeper.

The Roxana's discovery well, its No. 1 Culler, in the NWc NE¼ NW¼ of 12-8-8, with which the company has had so much trouble on account of fishing jobs and water difficulties, is now producing 1680 barrels of oil and 800 barrels of water daily. Its output of both fluids has been increasing during the past few days, although it has not been drilled deeper recently. A quarter-mile west of the discovery well, Dixie Oil Co. No. 1 Larney, in the NEc of 11-8-8, is drilling below 3445 feet with nothing showing.

At Cromwell, the Carter Oil Co., apparently has a near failure in its No. 1 Minnie Hill, in the NWc of 10-10-8, a quarter-mile east and a location south of the first Central National well in section 4. This well made only 40 barrels the first 24 hours, and is shut down at total depth of 3469 feet. Roxana Petroleum Corp. has a well making 50 million feet of gas but no oil, in its No. 4 Berryhill, in the SEc NW¼ of 10-10-8. This well got the sand at 3320 feet and is drilling ahead at 3350 feet.

## Oil Netted The Osages 24 Millions In 1924

By Special Correspondent

WASHINGTON, Dec. 2.—In respect of the relationship between permits to prospect and leases of land on which to drill for oil, the results under the national leasing law in the last fiscal year remind one of the saying that many are called but few are chosen.

In the annual report of Secretary Work of the interior department, sent to congress yesterday, it is shown that 4108 permits to prospect for oil or gas were taken out but they resulted in only 21 leases, for a total acreage of 3675 acres. One lease was sold under competitive bidding and a 163-acre tract brought $7,163.

Receipts from royalties for all kinds of minerals amounted to $13,631,840, chiefly, of course, from oil. In the unallotted Indian lands in Oklahoma, Montana, Wyoming and New Mexico 226,910 acres of land were leased. They produced 49,640,000 barrels of oil and the revenues from the oil was $29,146,000.

In the Osage reservation the leasings amounted to 62,448 acres sold for $16,457,000, one lease being sold for $1,990,000 and several, as Mr. Work said, for something more than $1,000,000. The Indians obtained a revenue of $24,670,000.

The Navajos sold leases in New Mexico for $80,598 and at the close of the fiscal year there were eight wells producing from 20 to 1200 barrels per day, the secretary said. In the Southern Ute reservation, which, like the Navajo is in New Mexico, netted the Indians $43,600, there having been five sales.

Up to June 30 last 1187 applications for oil permits had been filed on public lands in Alaska, 86 having been filed in the year. The permits cover 3,138,717 acres.

## Small Torrance Wells Now Get Attention

LOS ANGELES, Nov. 28.—Although operators are planning to drill at least 270 new wells in the Torrance field, some of the major companies in that district are devoting a great deal of attention just now to the reclamation of small pumpers, chiefly in the Lomita district.

The most successful of these are the Petroleum Midway Co. and the Pan-American Petroleum Co. These two companies, about six weeks ago, took over 20 old, decrepit pumpers and have brought them back to the point where they are now all sustained pumpers, with an average output of 90 barrels daily.

This was done by cleaning out, deepening and other artificial methods. The belief is that practically all of the other Lomita wells will be similarly treated and that many of the small producers, who now have their wells shut down will ultimately be eliminated from that district.

The Petroleum Securities Co. (Doheny) is now running 10 strings of tools in the northeastern part of the field. Chanslor-Canfield Midway, General Petroleum, Shell, and several other companies have programs calling for the drilling of from 20 to 100 additional wells, een though it now appears that most of them may be 100-barrel producers. The field is regarded as one in which the big company, with adequate mechanical facilities, can strip a large number of wells for many years and, by holding down expenses, realize nice profits.

Operators in the North Lomita district of the Torrance field have just borrowed a practical idea from Mid-Continent oil producers. They are tying their small pumpers together and operating them from a community pumping plant, to reduce overhead expenses and realize larger profits from production.

The first example of this has just been put into practice by the Ring Petroleum Co., having two wells, the Native Petroleum Co., having two wells, and Harry Armstrong, who operates one well. The properties all stand close together and they have all been hitched to the same power unit.

The five wells are yielding a combined daily output of 420 barrels. James Ring, who has two wells in the group, says the triangular scheme has resulted in cutting at least 65 per cent from the cost of operation.

## Standard Cal., Will Drill In Venezuela

NEW YORK, Nov. 28.—The Standard Oil Co. of California has signed contract with the Venezuelan Petroleum Co. whereby the former will have charge of the development of two concessions on the west side of Lake Maracaibo. The acreage involved in the contract totals about 25,000 acres.

Under the terms of the contract, the Standard will do all necessary geological and engineering work, drill an initial four test wells as soon as practicable and conduct such further development as conditions warrant. After deducting the Venezuelan government's taxes and royalty of 10 per cent, the Venezuelan Petroleum Co. and the Standard will divide the net remainder equally.

Details concerning the contract were revealed in a letter from H. R. Kunhardt, Jr., vice-president of the Venezuelan, to stockholders.

## New Pay For Heavy Oil Area Of Smackover

EL DORADO, ARK., Nov. 28.—Considerable excitement has been caused among operators in the El Dorado territory by the action of the Lion Oil & Refining Co.'s deep test on the Graves lease, in 3-16-15 of the Smackover heavy oil district. This well failed to pay off when tested at the regular 2100-foot sand; and was drilled deeper. A string of small casing was set at 2278 feet; and a test was made this week at a total depth of 2287 feet. The well came in like a gusher, and flowed over the derrick for about half an hour before it went dead. During this time, it made from 1500 to 2000 barrels of fluid, of which about half is oil.

It is believed that the well has bridged over; and arrangements are now being made to clean it out, set liner, and attempt to bring it back to production.

This is a very important test for the reason that no important oil production has as yet been obtained from the 2300-foot level in the eastern or heavy oil section of the Smackover District. Light oil is obtained from the 2300-foot sand in the western portion of the field.

## Studies Water Control In Richland Field

WASHINGTON, Nov. 29.—In the Richland field, one of the newer oil-producing districts in Texas, some of the wells have been drilled into a water-bearing sand, which threatened to cut off the supply of oil. The oil operators promptly called upon the Interior Department for advice in controlling these underground waters. After careful study of the well logs and other data submitted by the operators, and an examination of field conditions, engineers of the Bureau of Mines in less than two weeks prepared maps and underground cross sections showing the position of the oil, gas and water strata and furnished the operators with definite information for plugging back the wells and controlling the intruding water.

In the Powell field, in Texas, 29 wells have been cemented under the direction of the Bureau of Mines engineers. Twenty-two of these wells have been tested so far, showing that the water has practically all been excluded. The average daily production of the wells has been increased from approximately 800 barrels to 6000 barrels. The repair work, based entirely on the engineering study of the field by the Bureau of Mines engineers, is making rapid progress because of recent improvements in the tubing method of cementing. The time of shut-down for repairs on a well has been reduced from 10 or 12 days to only 4 days.

### Gulf Coastal, Texas Completions, Week Ended November 29

| Company | Lease—Well | Field | Depth | Prod. |
|---|---|---|---|---|
| F. B. West Oil Co | Wright 5 | Goose Creek | 1600 | 75 |
| S. R. Buchanan et al | Millhom 78 | Batson | 1055 | 10 |
| S. R. Buchanan et al | Millholm 80 | Batson | 472 | 8 |
| East Batson Oil Co | Texas Co. 1 | Batson | 1150 | 5 |
| Rio Bravo Oil Co | "B" 212 | Saratoga | 1025 | 5 |
| Skinner Oil Co | Booker 1 | Saratoga | 1000 | 15 |
| J. S. Jackson | Trustee 3 | Sour Lake | 1250 | Aband. |
| Gulf Refining Co. of La | Vincent 37 | Vinton, La | 3100 | 200 |
| O. Absher | S. F. S. 1 | Evangeline, La | 1750 | 175 |
| Green Oil Co | Moore 6 | Edgerly, La | 3000 | 10 |

## Completions In North Louisiana And Arkansas Week Ended November 27

### LOUISIANA

**Cotton Valley—Webster Parish**

| Company | Well | Location | Depth | Yield |
|---|---|---|---|---|
| Moffitt & Murphy | Coyle No. 1 | 28–21–10 | 2577 | 2000 |
| Bethany Oil & Gas Co | T. R. Wylie No. 1 | 1–22–10 | 2631 | 35 m gas |

**Spring Hill—Webster Parish**

| | | | | |
|---|---|---|---|---|
| Atlantic Oil & P. Co | Bodcaw Lbr. Co. No. 1 | 23–23–12 | 2715 | junk.aban. |
| Belchic & Laskey | Pine Woods Lbr. Co. No. 5 | 37–23–11 | 2688 | 20 m gas |
| G. W. Weatherbee | Bolinger No. 1 | 38–23–11 | 2664 | 35 m gas |

**Bossier Parish—Elm Grove**

| | | | | |
|---|---|---|---|---|
| Arkansas Nat. Gas Co | Van Hoose A-3 | 31–16–11 | 1898 | 25 m gas |

**Claiborne Parish**

| | | | | |
|---|---|---|---|---|
| Pomeroy et al | Harmon No. 1 | 34–20–6 | 3071 | s.w.aband. |

**Union Parish**

| | | | | |
|---|---|---|---|---|
| Cargile et al | Heard No. 1 | 25–21–3W | 2410 | junk.aban. |

**Ouachita Parish**

| | | | | |
|---|---|---|---|---|
| Southern Carbon Co | Fee No. 39 | 29–19–5E | 2265 | 2 m gas |
| Southern Carbon Co | Fee No. 41 | 7–19–5E | 2155 | 2 m gas |

### TEXAS

**Waskom—Harrison Co.**

| Company | Well | Location | Depth | Yield |
|---|---|---|---|---|
| J. H. Greer | Abney No. 1 | Blair HRS | 956 | 15 m gas |
| Howze et al | Bryson A-1 | Pollock HRS | 950 | 10 m gas |
| State Line O. & G. Co | Taylor No. 1 | Wilson HRS | 1950 | 25 m gas |
| State Line O. & G. Co | Waterman No. 5 | Pollock HRS | 940 | 20 m gas |

**Panola County**

| | | | | |
|---|---|---|---|---|
| Glassell et al | Tip Douglas No. 1 | Lacy HRS | 997 | 5 m gas |

### ARKANSAS

**Nevada County**

| | | | | |
|---|---|---|---|---|
| Kanark Pet. Co | Honea No. 1 | 12–13–21 | 1957 | dry aband. |

**Smackover**

| | | | | |
|---|---|---|---|---|
| Lion Oil & Ref. Co | Graves No. 5 | 3–16–15 | 2300 | 3000 |
| Hunt et al | Green B-2 | 23–15–17 | 2315 | 500 |
| W. G. Burton, trustee | Hughes No. 10 | 28–15–16 | 2290 | 70 |
| J. H. Meek, trustee | Laney No. 2 | 30–15–15 | 2025 | 75 |
| Miller & Winger | Hardin No. 2 | 28–15–16 | 2255 | 50 |
| Morris et al | Mullin No. 2 | 27–15–16 | 2290 | 40 |
| Sun Oil Co | Hardin No. 1 | 27–15–16 | 2253 | 50 |
| Gladys-Belle Oil Co | Thompson No. 1 | 7–16–15 | 2050 | 75 |
| Standard Oil Co | Lingleback No. 8 | 22–16–15 | 2010 | 20 |
| Texas Oil Co | Alphin No. 5 | 3–16–15 | 2320 | 20 m gas |
| Sutherland et al | Neely No. 3 | 1–16–17 | 2270 | 40 |
| Harrell et al | Teel No. 1 | 11–19–12 | 3178 | s.w.aband. |

## Completions North-Central and West Texas Week Ending November 29

### WICHITA FALLS DISTRICT

**Wichita County**

| Company | Well No. | Lease | Depth | Prod. |
|---|---|---|---|---|
| Sam Kruger et al | 8 | Kemp and Allen | 1650 | 50 |
| Kentucky Oil Co | 3 | Kemp | 1340 | Aband. |
| Texhoma-Perkins | 1-b | Burnett | 1590 | 70 |
| Texhoma Oil and Refng | 3-c | Burnett | 1960 | Aband. |
| Perkins and Cullum | 10 | Burnett | 1590 | 100 |
| L. P. Hammond | 1 | Waggoner Bros | 1965 | Aband. |
| Ryan Petroleum | 26 | Nance | 1690 | 85 |
| Clopton and Stone | 1 | Rathgeber | 2015 | Aband. |
| Ed Barr et al | 1 | Fisher | 2000 | Aband. |
| Shappell Oil Company | 1 | Sisk | 2500 | Aband. |
| Magnolia Petroleum | 8 | Abernathy | 1950 | Aband. |
| Stump Oil Company | 1 | Chilson | 1800 | Aband. |

**Archer County—North**

| | | | | |
|---|---|---|---|---|
| Roy I. Carter et al | 11-e | J. H. White | 1600 | 150 |
| Roy I. Carter et al | 12-e | J. H. White | 1595 | 160 |
| Beaudoin et al | 1 | Coleman | 2000 | Aband. |
| Humphries et al | 10 | J. H. White | 1610 | 400 |
| Fuller, Owens & Wright | 3 | W. N. Miller | 740 | 20 |
| John Lane et al | 3 | J. H. White | 1615 | 75 |
| Humble Oil & Refng | 1 | L. F. Wilson | 1590 | Aband. |
| Humble Oil & Refng | 1-B | L. F. Wilson | 1650 | Aband. |
| Magnolia Petroleum | 6 | W. F. Parrish | 1590 | 75 |
| Fletcher Syndicate | 1 | S. M. Gowen Estate | 2010 | Aband. |
| Woodburn Oil Corp | 11-a | L. F. Wilson | 1510 | junked |
| Ross Robertson et al | 3 | J. H. White | 1595 | 110 |
| Ross Robertson et al | 10 | J. H. White | 1610 | 175 |

**Archer County—South**

| | | | | |
|---|---|---|---|---|
| Davis & Hart | 1 | Kunkel | 1425 | Aband. |
| Grisham & Parks | 3 | Davis | 1080 | 360 |
| Mitchan & Logan | 1 | B. C. Taber et al | 1550 | Aband. |
| Nebraska-Tex Oil Co | 1 | Holosek | 1475 | Aband. |
| Consolidated Oil Co | 5-A | Davis | 1090 | 210 |
| Consolidated Oil Co | 6-B | Ragle | 1100 | 150 |
| Consolidated Oil Co | 2-E | Ragle | 820 | junked |
| Consolidated Oil Co | 4-E | Ragle | 1085 | 260 |
| Barbee et al | 1 | Campbell | 1500 | Aband. |
| Green et al | 1 | Rogers | 1600 | Aband. |
| Bridwell & Mayfield | 1 | Norred | 1310 | Aband. |
| Mutual Oil Co. & Gardner | 1 | Harmel | 1275 | 400 |
| Maer & Staniforth | 3 | Birdwell | 1140 | 160 |
| Petroleum Producers | 1 | Birdwell | 1135 | 400 |
| Petroleum Producers | 3 | Rogers | 1280 | 250 |
| Petroleum Producers | 4 | Rogers | 1280 | 360 |
| Melat & Graham | 4 | Goldsmith | 1360 | 130 |
| Tucker & Langford | 1 | R. E. Farmer | 1350 | Aband. |

**Wilbarger County**

| | | | | |
|---|---|---|---|---|
| McCamey & Sherrin | 1 | Stephens | 2085 | Aband. |

**Montague County**

| | | | | |
|---|---|---|---|---|
| Mascho Oil Company | 1 | Howard | 3600 | Aband. |
| The Texas Company | 2-A | Gist | 925 | 30 |

### GENERAL RANGER TERRITORY

**Young County**

| | | | | |
|---|---|---|---|---|
| Litchfield & Madden | 1 | Campbell | 1045 | 75 |
| Burns & Maxson | 1 | Alexander | 1500 | Aband. |
| Dunn & Company | 1 | Johnson | 4330 | 50 |

**Stephens County**

| | | | | |
|---|---|---|---|---|
| Landreth Prod. Co | 2 | Martin | 4000 | Aband. |
| Sindorf Bros | 2 | Sorgee | 1835 | 25 |
| Ivan Petroleum Co | 2 | Martin | 4010 | Aband. |

**Shackleford County**

| | | | | |
|---|---|---|---|---|
| Haughland et al | 1 | McKnight | 1000 | Aband. |

**Eastland County**

| | | | | |
|---|---|---|---|---|
| Krik & Brewer | 5 | Shugart | 2880 | 50 |
| The Dixie Co | 1 | Brashear | 3250 | 75 |

### WEST TEXAS

**Reagan County**

| | | | | |
|---|---|---|---|---|
| Big Lake Oil Co | 18 | University | 2950 | 3300 |

**Crockett County**

| | | | | |
|---|---|---|---|---|
| Mid Kansas Oil & Gas | 1 | Harris Bros | 3505 | Aband. |

### EAST CENTRAL TEXAS

**Navarro County**

| | | | | |
|---|---|---|---|---|
| Boyd Oil Co | 1 | Boyd | 2960 | 1500 |
| Payton & Allison | 2 | Davis | 2960 | 110 |
| John Hooser | 3 | Swink | 3000 | 60 |
| U. S. Tex Oil Corp | 4 | Ramsey—A | 1610 | 30 |
| Garland Kent | 1 | Barry | 2040 | Aband. |

**Freestone County**

| | | | | |
|---|---|---|---|---|
| Boyd Oil Co | 1 | Simmons | 2960 | 7500 |

# Second Wortham Well Quickens "Boom" Activity Already Under Way

**By Paul Wagner**
STAFF REPRESENTATIVE

HOUSTON, Nov. 28

PINCHED down and flowing through two chokers, the second well in the Wortham field was flowing at the rate of 7392 barrels the next day after its completion. The well, which is the No. 1 Simmons, located a half mile south of the Wortham townsite, in Freestone county, had been completed Thanksgiving day at total depth of 2963 feet.

Producing as it was through a 1-inch choke and a 2-inch choke, the maximum possible flow of the well was impossible to estimate with absolute accuracy. It was believed, however, to have open flow capabilities as high as 15,000 barrels.

The Simmons well was originally drilled by the Boyd Oil Corp., which brought in its No. 1 Boyd discovery, a mile and a half southwest of the Simmons, flowing by heads the night of Nov. 22. The discovery well was on leasehold owned entirely by the Boyd Oil Corp.; but before the Simmons had reached completion a half interest in it and the 16-acre leasehold on which it is located had been acquired by the Marland Oil Company of Texas.

No. 1 Boyd, which was less favorably located than the Simmons with regard to the Woodbine fault structure, which is the basis of accumulation in the Wortham field, is now estimated to be making roundly 2000 barrels daily. It was finished at total depth of 3106 feet, this level comparing with the 2989 foot depth, where the November 26 issue of National Petroleum News credited it with 300 to 800 barrels. At that time, this periodical anticipated its possible production of 2000 barrels daily upon drilling deeper.

When the discovery well came in, as previously reported in the Nov. 26 issue, the "lid popped off" of the development at Wortham, where it had been sought to control operations that were indicated clearly by earlier geological knowledge.

### Forest of Derricks Already

Derricks began springing upon location immediately and by the time the Simmons well was completed a forest of them already were either towering against the sky-line or they were under actual construction. With the completion of the Simmons well, the rush became even greater and it was indicated that within 30 days there would be a derrick on virtually every location indicated by geological knowledge to be productive ground.

In addition, there naturally would be a number of additional derricks skirting or outlying from the indicated fringes of the narrow and oblong field. Because of the dry holes drilled in the past, which serve their purpose for correlations, it can be safely said that the field will be probably as narrow as 2000 feet at its widest point, certainly not more than 3000 feet, and that it will not exceed three miles in length, based on the measure taken on existing knowledge.

### Wortham Is Due To Be Speedy Campaign

HOUSTON, Nov. 29.—Wiping his brow as he wrote up another order yesterday, S. P. Brown, sales manager of the Hughes Tool Co., put the stamp of the equipment branch of the industry on the Wortham drilling outlook.

"I'm figuring," said Mr. Brown, "that all the locations will be made and orders for drilling equipment placed by about next Saturday night, at the rate development is going ahead."

The rotary drilling equipment sales bunched into a little more than two weeks' time, the steel storage manufacturer is due for his inning before the end of December and another 60 days thereafter should find the flush gone and operators placing orders for pumping equipment.

An estimate that the field will reach its peak of production within 90 days holds good, as previously made by the writer, but at the rate derricks are springing up on location it is possible that the time may be shortened and that, instead, only 60 days will be required.

In rapidity of development and comparably the rate at which the field mark will be reached, the Wortham pool will be not unlike the Powell field. Similarly to the latter, its production may be expected to decline 50 per cent from its peak level within 15 to 30 days after the daily maximum is reached.

Otherwise, the Wortham development will not have the same effect in volume of production or ultimate yields that Powell reached, because of its being smaller in its areal extent.

If anything, however, the Wortham drilling operations will be more intensive than was the case at Powell, because of the small acreage plots and the townsite development that even now is getting under headway.

Perhaps no field in the Woodbine sand belt of the Balcones fault zone, which included besides Powell the developments at Mexia, Currie and Richland, has had the outlet facilities that will be immediately available for the flush outpour at Wortham. Its proximity to these earlier fields makes it necessary for the pipe lines existing in this part of the east Texas district to build gathering facilities only a few miles, in any instance, to connect with it.

The Prairie Pipe Line Co., which connected immediately with the Boyd and Simmons completions, already had a line through this area that was built from its original Mexia system to take oil at Powell last year.

Gulf Production Co.'s tank farm that was built to take care of Mexia crude, and which is connected with the Gulf pipe line eastward to its trunk system in east Texas, was built at a point only a short distance northeast of the town of Wortham.

Humble Pipe Line Co.'s line out of Powell southward actually cuts through the Wortham field and the only construction required for it to begin taking oil will be the erection of an additional pump station unless it should prove desirable to "loop" its line facilities southward to the Groesbeck tank farm.

Pure Oil Pipe Line Co. has facilities immediately adjacent to the area, but is said to have its pipe line running to capacity and except for arranging to take care of its own production at Wortham probably would not immediately become a purchaser.

The Texas Co., the Magnolia Petroleum Co., and the Sinclair Pipe Line Co., all have outlet facilities that are, at the most, no more than a few miles away from the field proper.

### Tank Construction Necessary

A problem that will call for a certain amount of construction, however, will have to do with the providing of additional tank farm facilities; and in addition to drilling equipment, the sale of which will be quickly over because of the rapidity with which development is getting under way, there should be a considerable market for steel storage.

The fact that Wortham development will be further expedited because of rotary drilling and the ability to get a well down to the sand in 15 to 18 days makes for the certainty that the "bunching" of completions toward the latter

part of December or early in January will tax the facilities of the purchasing companies for a brief period at the height of production.

It will be to take care of such a contingency that tank farm construction rather than any appreciable amount of pipe line building will follow in the wake of the time when the field reaches its stride.

In the face of such a situation as outlined, it would be impossible to make an accurate forecast of the precise level to be reached when the field comes to its actual peak of production. The favorite figure among Texas operators is 100,000 barrels daily, allowing for the quick decline of individual wells preceding fresh completions only by a few days.

The minimum figure of 50,000 barrels field mark suggested by the writer a week ago in order to be as conservative as possible will certainly be exceeded, now that it is apparent more clearly just how rapidly intensive development is getting under way.

It would not be surprising were the 100,000 barrels daily estimate to be exceeded materially at the peak, but whatever the daily maximum in excess of that level it will not be sustained for long; and it is doubtful whether the field will exceed that figure greatly when considered in terms of daily averages for as long as a week.

### Drilling Water Problem

The principal problem having to do with development at Wortham is that of drilling water. Simms Oil Co. plans an extension of its Mexia water system by stringing about five miles of pipe to the area.

Boyd Oil Corp. has damned-up Tehuacana creek with concrete at a point near the field and will use this as a source of its supply. Humble Oil & Refining Co., and the Kirby Oil Co. have both bought up extensive water rights and others are doing what they can to provide a supply, or they are making contracts for water with one or another of the interests mentioned.

The town of Wortham, which is overflowing with "floaters," in addition to the workers necessary to such a development, is taxed to the full in taking care of the incomers. Housing facilities constructed at the time of the earlier Currie "boom," in a field two miles northeast of Wortham, however, provide some quarters that otherwise would not have been available.

Mexia being only 10 or 12 miles to the southwest is getting its full share of "boom" honors, being close enough to provide the supplies and other development requisites that Wortham has not had the time to take unto itself.

# Tidal-Dunn Co. Incorporated For Cleaning Out With Air

Staff Special

TULSA, Nov. 29

ANNOUNCEMENT is made of incorporation of the Tidal-Dunn Co. for the purpose of taking over the patent rights of Irwin L. Dunn on the process of cleaning out wells with compressed air or gas, which process has recently attracted much attention because of its successful use in the Bartlesville, Nowata and Burbank fields. The incorporators are the Tidal Oil Co. and Smith, Dunn & Lewis. The Tidal-Dunn Co. will design, build and serice portable and stationary outfits for cleaning out wells, these outfits to be known as the "Dunn Cleaning Out Machine." Mr. Dunn, located in the Kennedy Building, Tulsa, will act as manager and C. I. Layton, who has been in charge of the work for the Tidal Oil Co., will be in charge of field service.

The process, covered by the Dunn patent applications, is a method for cleaning out oil and gas wells by blowing out the sand, mud or other material in the well with compressed air or gas. Tubing is run to the top of the cavings in the well and compressed air or gas is forced down the tubing and the sand, mud, etc. is blown up between the tubing and the casing to the surface. The process was first worked out near Marietta, Ohio, where stationary compressed air plants are found on nearly all properties for rejuvenating the oil sands. For use elsewhere, a portable outfit consisting of a compressor plant and a large air storage tank, both mounted on wheels, was developed at the Tidal shops at Tulsa.

This outfit has successfully demonstrated the methods for the Bartlesville sand fields around Dewey, Okla., where some 16 wells have been cleaned out on an average of three days to the well and with increases in production in no case less than double. In the same district, previous experience with portable drilling tools showed an average time of nearly two weeks to the well. The new method has resulted in less expense, less time, more increase in production and has been more effective in cleaning out sand and cavings.

Because no portable compressor plant is built that would be suitable for continued and efficient use, it has been necessary to develop special outfits for this purpose. It has also been necessary to work out methods for dealing with the special problems arising from the use of the new process and ways for protecting men working around these machines. The Tidal-Dunn Co. will supply trained men with each machine until such time as the industry has learned how to use the process and how to assure the safety of the men in using high air pressures.

Besides supplying the larger companies with machines, the Tidal-Dunn Co. is taking over the interests of Smith, Dunn & Lewis in a contracting business with W. W. Warner and T. R. McSpadden for cleaning out wells with this process. At present one machine is in use under the charge of Warner and McSpadden at Nowata, Oklahoma.

The Dunn patent applications cover both the process, whatever the source of pressure, and the portable features. The process is revolutionary in its results, and entirely new to the industry. It was first described in National Petroleum News several months ago, when the first machine had just been completed in the Tidal Oil Co. shops.

**Well in Claggett pool, two miles north of Nowata, Okla., being cleaned out with compressed air by Tidal-Dunn process**

# Sun Oil Co. Finds 15 Million Feet Gas In Western Colorado Test

By Special Correspondent
DENVER, Nov. 29.

THE area on the western slope of the main mountain range which runs in a north and south line through the center of Colorado came to the front this week with another strike which is increasing the interest in that terriory. The Sun Oil Co., drilling on the NW¼ of NW¼ of 8-8S-102, Carbonera, or Garmesa dome, 10 miles north of Mack, on the main line of the Denver & Rio Grande Western railroad and 10 miles east of the Utah boundary, opened up a flow of 15,000,000 cubic feet of gas at 2865 feet in what is believed to be the Frontier formation a few hundred feet above the Dakota, the objective horizon.

While the well blew in unexpectedly as the tools were being lowered, it did not come as a surprise as the test had been giving favorable indications for some time. It was spudded in on Sept. 27, 1924, and has made rapid progress. The structure contains about 3200 acres inside the 350-foot contour and the total closure is estimated at 500 feet. The Sun company has 1240 acres, the Midwest Refining Co. 1400 acres and the Gypsy Oil Co. 500 acres. The test is being drilled under a dry hole agreement with the Midwest and Gypsy companies which will contribute to the cost if it is barren but which will be paid for and owned by the Sun company, if productive. The structure is located about 45 miles northeast of the Cisco fold in Grand county, Utah, where the Utah Oil Refining Co. recently opened up a flow of 90,000,000 cubic feet of gas.

The western slope area promises to come in for a big pay from the wildcatters the coming year. The strike at Cisco, in Utah, a month or two ago has had much to do with the interest being taken in the new district but is responsible only in part for the new activity as the presence of structures in the area has been known for some time and it has been the scene of considerable wildcatting in the past.

The Midwest interests are taking a leading part in the new development. The Midwest Refining Co. is now drilling on 30-2N-102, in the old Rangely field, in Rio Blanco county, which will be a deep test to the Dakota sand, while the Marland Oil Co. is making rapid progress on 20-1N-93, also in Rio Blanco county, on the Meeker dome. The Marland test is of especial interest because the well started in the Dakota and is intended as a test of the Pennsylvanian formations. It is the first structure in Colorado worked out in the Pennsylanian to be given a test. The hole was in the red beds at 1036 feet in a formation so hard the tools had to be dressed twice in making only 2 feet. At 1360 feet it encountered a flow of salt water which was shut off and at 1572 feet it is still drilling in the red beds in a dry hole. The first sand in the Pennsylvanian is expected at 1700 feet and two other sands are expected at less than 2000 feet all of which show saturation in a canon outcrop some distance away. Well is located on 20-1N-93.

The White River Development Co. is endeavoring to straighten a crooked hole at 2700 feet on the White river dome, 31-2N-96, also in Rio Blanco county. The objective of this well is a sand in the break between the Wasatch and the Mesa Verde formations expected at around 2800 feet. This well tests out some unknown formations. The first attempt to reach the sand was made in 1923 when it encountered several flows of gas totalling 14,000,000 cubic feet a day and showings of oil of 41 gravity. The hole went bad, however, and was abandoned at 1300 feet and a new one started. The second hole again encountered the big flow of gas in the upper formations but these were shut off to continue to the objective.

### Will Drill Deep Test

The Midwest Refining Co. is preparing to make a deep test on the High Line dome, in Mesa county, just west of Grand Junction where it is reported to have taken over the holdings of the Peerless Oil Corp. The latter started a test on 23-8S-104 but has been shut down for some time at 800 feet. The Midwest is now drilling several validating holes and will start the deep test or complete the Peerless well.

Farther to the southeast, the Mid-Colorado Oil Co., subsidiary of the Transcontinental, has been drilling a test on the Eckert dome, Delta county, 14-14S-93. This well made a flow of 1,500,000 cubic feet of gas at around 800 feet and a little deeper made about 750,000 cubic feet but at 1475 feet it ran into water in an unidentified horizon which is now being shut off. The area under consideration embraces the old Rangely and Meeker fields where oil at shallow depths was found in a number of wells drilled more than 20 years ago. On the Utah side, there is also considerable activity which is mentioned elsewhere.

The Ohio Oil Co. is abandoning its test on 25-21-64, southeast of Pueblo, which stopped at 1740 feet with the bottom 100 feet in the red beds. This well topped the Dakota at 1125 feet and found the horizon down to the red beds all water bearing. It has no plans for additional tests in that area at this time.

### Another Test On Iles

T. S. Hogan commenced spudding this week on another test for the Iles dome in Moffat county. The location is on Lot 13, NE¼ of 16-4-92, higher up on the structure than No. 1 which was abandoned after finding water in the Dakota at 3366 feet. No. 1 was about 700 feet down on the structure and was put down under a dry hole agreement with the Texas and Transcontinental companies to test a theory that a fault intrusion had shut off the oil from the south. The Midwest's French No. 1, on 22-4-92, on top of the dome, is standing at 2675 feet waiting for the cement to set before making a volume test of oil showing in a black shale below a water sand and also below a sand showing 730 barrels a day of emulsified oil. The Yarg Producing & Refining Co., on 14-4-92, is again waiting for cement to set before drilling into the Dakota. Midwest has three other wells on the dome under way one of which may reach the sand ahead of the No. 1.

The old Florence field in Fremont county, which has been producing for more than 45 years from shale, is to be given several additional tests by the Mutual Oil Co. of which two will be drilled on its own account and two under contract. These will be an attempt to extend the field in unproven territory with no particular objective in view as the oil in this field comes in at varying depths from the shale in a syncline. One, however, will be drilled to the north of the field on a structure to test the Dakota sand.

Union Oil Co. of California's test of the Douglas Lake Dome, north of Fort Collins, is down 4330 feet and through the sand encountered at 4258 feet which contained water. The hole is now dry and the test will go on down to see if anything worth while may be picked up though little hope is felt of it becoming a producer. The Whitaker well, the Union company's discovery on the Fort Collins dome, has not yet been opened up though drilled into the sand 3 months ago. A total of 204 tank cars of oil have been shipped from this well since Nov. 6, this oil coming from storage and represents accumulations of oil seeping from between casings. The quantity shipped is now in excess of

45,000 barrels which is a fairly good output for a well that has been shut in ever since it was completed.

**Utah**

The test of the Utah Oil Refining Co. on the Cisco fold, in Grand county, eastern Utah, which blew in as a 90,000,000-foot gasser two months ago at 1955 feet but in which the quantity gradually subsided until it is now hardly in commercial quantities, is to be deepened. Just before the well commenced making gas the Midwest geologists estimated that it was still 200 feet or more off the Dakota sand, the objective, and the results were unexpected. It was at first considered that folding had resulted in the sand being shallower than estimated but the geologists were not entirely satisfied and had microscopic examinations of the sand with a view to determining just what horizon produced the gas. The result was the opinion that the gas had come from above the Dakota and that the hole had not reached the objective.

The first showing of gas came from a thin sand above the formation in which the large flow was found. The distance between the two sands corresponded favorably with the depth of the Dakota below the Frontier and this led to some confusion as to the identity of the horizons. Drilling will be resumed as soon as the hole is cleaned and put in condition with the expectations that the Dakota will be picked up within the next 200 feet or more.

**Wyoming**

Salt Creek production showed an increase the past week, the first time for several months. The daily average was 60,200 barrels as compared with 52,520 in the preceding week.

Interest is again centering in the deep to the lower horizons in Salt Creek. The Midwest Refining Co. has had considerable trouble in killing its No. 34X on 23-40-79 which came in on September 13 with a production of 6000 barrels from the Lakota sand at a total depth of 2546 feet, so it could be drilled deeper. The gas pressure causes the well to clean itself each time the oil is muddied off and the work has to be done over again. The well was making considerable water along with the oil at last reports. This well was located on the northwest edge of the first sand area. No. 33X, which is intended as a deep test on the southwest edge of the first sand producing horizon, is down 2115 feet and probably will pick up the first sand in the Dakota within a week or two.

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**General Buys Ship**

LOS ANGELES, Nov. 28.—The General Petroleum Corp. has just purchased from the U. S. Shipping Board the tanker L-10, a steel vessel, for $153,750.

This boat has a dead weight tonnage of 10,250 and a gross tonnage of 7,245 tons. When the General Petroleum receives it and converts it to a type of vessel suited to its particular needs, the boat will be given a new name.

# Discovery Well In Rosecrans Field Is Long Delayed Completion

By Special Correspondent

LOS ANGELES, Nov. 28.—The Union Oil Co. of California has just broken all cement job records in this state by completing its Rosecrans No. 1 well in the Rosecrans field, on the fourteenth attempt at a water shutoff. The incident is reported to stand without a parallel in California petroleum history.

This well, which is now yielding 500 barrels of high gravity crude per day, was completed yesterday at a depth of 4041 feet. It came in just in time to take its place as the fourteenth producer on the Rosecrans field production list. The peculiar thing about it is that this identical well was the first one to pick up oil sands at Rosecrans, and was destined to be the discovery well of the field until an ancient wildcat hole blew in and robbed it of that distinction.

Ten months have elapsed since the Rosecrans No. 1 began spouting water, mud and oil. At that time the Union expected to bring it in hourly. But it developed water trouble and one cement job after another failed to solve the problem. Finally the Union, after cementing the hole 12 times and getting down to 4¼-inch casing, went away and left the hole standing while it tested the oil formation with several other wells which are now on production.

In the meantime upwards of twenty different companies hopped into the field and started an intensive drilling campaign which has reached the point where the field has 14 producers and upwards of 75 derricks in the field.

Across the street from Rosecrans No. 1, the Superior Oil Co. found the solution of the water problem in the southeastern part of the field, and three wells were brought in within a few days of each other.

Abandoning its efforts to shut off the water at the top of the oil zone, the Union began ripping out the six-inch and four-inch casing in the Rosecrans No. 1, an operation which was attended by every prospect of disaster. Due to the many cement jobs, the task of taking out the casing, aggregating nearly one and one-half miles of pipe, was even more difficult than in the ordinary well. After several months of ripping, milling and sidetracking, the pipe was all extracted with the exception of a few feet in the bottom of the hole, and the Union drilled past this point to the present depth of 4041 feet.

Profiting by the experience of other wells in that area, the Union abandoned the idea of getting production from the top of the oil zone, which was demonstrated to be so closely intermingled water sands that it was practically impossible to separate the oil from the water. A new string of six-inch casing was set at 4013 feet.

On the first shutoff attempt it seemed that the Union was doomed to further disappointment, and the well had to be recemented. The second cement job on the new string, the fourteenth to be put in the well, proved to be the winner, and the well yesterday began flowing into the tanks.

The first oil showing was found in Rosecrans No. 1 at 3916 feet in February, 1924. Eight-inch casing was immediately set at that point, but four consecutive cement jobs demonstrated that a water shutoff could not be made at that point. A string of six-inch casing was then set at 3926 feet, and was cemented six times without success. The Union then set four and one-half inch casing at 3958 feet, and made two unsuccessful attempts to shut off the water at that point.

## Archer And Reagan Cos. Add To Production

FORT WORTH, Nov. 29.—The Powell-Mexia district revival was overshadowing in importance the remainder of the North-Central Texas district as the week closed. South Archer county, however, attracted attention, even without important new discoveries, or extensions, by adding a total of 10,000 barrels new production to the Wichita Falls district average. Reagan county had one new producer, the No. 13 University Lands of the Big Lake making 3300 barrels the first 24 hours, from the 2950-foot pay.

Three other wells in the Big Lake field, two for the Big Lake and the third the Texon No. 2, Group 1, are due for completion within the next week.

The Texon No. 1, Group 2, the Arkansas Fuel company's test, both some distance outside the pool, are apparently dry. The former is reported 3900 and the latter 3150 feet deep.

Trackage is being laid for the loading rack of the Marland, while construction of the tank farm is getting well under way, as the new oil purchasing company formed by Marland is carrying out its contract to take the Big Lake oil.

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TULSA, Nov. 29.—M. F. Waters, manager of the Smith Separator Co., and Mrs. Pearl Savoie of Tulsa, were married here Nov. 26. They are now on a tour of the east after which they will be at home in Tulsa. Mr. Waters is widely known through the southwestern oil fields.

# Operators Show Why Proposed Rules Would Hamper Industry

Staff Special

OKLAHOMA CITY, Nov. 28

AFTER hearing protests of oil men on its proposed new rules governing methods of drilling and cementing wells, the state Corporation Commission took the matter under advisement, and at some later date will announce its final decision in the matter. At present, it appears that the tentative regulations will not be enacted into law, but rather will be allowed to die a natural death, for producers at today's hearing showed convincingly that most of the rules proposed would be a detriment, rather than a help, to conservation of the state's resources, and that some of them were unnecessary, on account of being covered by regulations already in force and effect.

In the matter of drilling into producing sands with rotary tools, which the commission sought to prohibit, it was brought out at the hearing that a large number of wells in southern Oklahoma, especially in the Graham field, have been drilled in with this method, with results as satisfactory as those obtained with cable tools, and at a saving of something like $5,000 a well, which approximately represents the cost of standardizing. The commission was given figures compiled by the U. S. Bureau of Mines on this subject and published in its recent bulletin on the Fox-Graham fields, in which a number of wells completed with rotary were compared with cable-tool completions. This compilation showed there was very little difference in initial producion of oil wells completed by the two methods, while gas wells completed with rotary showed larger initial flow than those drilled in with standard tools.

F. M. Connor, retiring chief conservation officer of the Corporation Commission, was the commission's only witness, his task being to explain the intent and purpose of the commission in issuing the proposed regulations. He has recently resigned, and is reported to have been employed by a cement company. His successor is W. C. Geers, for some time past secretary to the commission, who presided over today's hearing. The commissioners could not be present because of other hearings falling on the same day. The commission was represented by Clark Owsley, its attorney.

### Association Represented

The Mid-Continent Oil & Gas association was represented at the hearing by several members of its committee appointed to study the proposed rules, headed by Harry H. Smith, secretary, who was in charge of presenting their case to the commission. There was also a group of operators from the Ardmore district, headed by Dr. J. E. Bristow, pioneer Graham operator, who protested especially against the rule prohibiting drilling in wells with rotary tools.

Among Tulsa men accompanying Mr. Smith to the hearing were: Burt H. Collins, Echo Oil Co., Rush Greenslade, Gypsy Oil Co., R. F. MacArthur, Barnsdall Oil Co., J. A. Wolfe, Prairie Oil & Gas Co.; and John Bennett, Skelly Oil Co. L. C. Hawkins, Magnolia Petroleum Co., Oklahoma City, a member of the committee, also was present, as was Art Walker, formely chairman of the Corporation Commission, who had been retained by the Prairie Oil & Gas Co. From Ardmore, in addition to Dr. Bristow, were F. W. Merrick, Lloyd Noble, Noble Drilling Co.; C. W. Tomlinson, Schermerhorn Oil Co., and others.

In arguing against the rule requiring rotary drilled wells to take cores of "every formation passed through" it was stated that the cost of doing this would make drilling impossible in wildcat territory. The object of taking cores being to provide information as to formations encountered, and this information being more valuable to the operator concerned than anyone else, it seemed to the oil men present that it should be left up to him when he would, or would not, take core samples.

Rule 2, which proposed to make it mandatory that all casing set immediately above the formation from which production is expected be cemented in place so as to shut off water from above, was especially objectionable to the operators present. They pointed out that if every gas, water, and oil sand passed through had to be cemented, it would be impossible to under ream and lower the pipe in the well, and have it as their opinion that it would be impossible to drill to the Wilcox sand with this rule in effect, as well would "run out of hole" before this depth was reached.

### Would Prevent Flooding

In this connection, the corporation commission's attention was directed to the fact that measures now being used in eastern fields to rehabilitate old production, such as flooding of sands, would have to be practised in Oklahoma in time, and that cementing of all pipe in the hole would render renewal of casing impossible, precluding the use of such methods of increasing production. Although most Oklahoma fields are not yet old enough to necessitate the renewal of casing in the wells, it was stated that the time will come when it is necessary, and that casing cemented in cannot be renewed, but can be removed from the well only at its final abandonment, by cutting or otherwise. Thus, the commission's proposed ruling would deter conservation, rather than help it. These, and other interesting points, were brought out in a statement read into the record by Burt H. Collins, of the Echo Oil Co.

All operators present were a unit in protesting against the proposed rule that all cement in wells be allowed to set for 10 days, unless an accelerator having the approval of the commission be used. Testimony was presented showing that while sometimes it required 10 days for cement to set properly, at other times five or six days only were necessary, and further delay only added to the operator's expense. The operator has no desire to resume drilling until the cement has set, as any attempt to do so would simply mean that the whole cementing job would have to be done over, but he should be allowed to proceed as soon as the cement has set, whether 10 days have elapsed or not.

### Cementing Expert Testifies

All testimony presented in this connection was to the effect that most cement accelerators on the market were no good, and the corporation commission would be doing wrong to approve any of them. Erle P. Halliburton, of Duncan, who makes a business of cementing wells, stated that he had had analyses made of several of these cement "dopes" and that he did not recommend the use of any of them. The operators believed that the commission should allow the operators to use whatever process they desired in cementing wells, and to proceed with drilling as soon as the cement had set properly.

One rule proposed by the commission, but not included in the list previously sent out, was not opposed by the operators present. It provides that individuals or companies engaged in abandoning and plugging wells, removing casing, etc., shall be required to be licensed by the state and make bond to insure that wells will be plugged in accordance with the commission's regulations governing. This would not affect companies which plug their own wells, but applies only to those compaines who make it a business to plug wells for other operators.

## Caddo Lake Producer Hold's Up Well

MOORINGSPORT, LA., Nov. 28.—A gauge was taken this week of the Gulf Refining Co.'s Ferry Lake "gusher" located in 15-20-16 of the bed of Caddo Lake, near here; and it was found to be flowing at the rate of 1920 barrels of clean oil per day through two ¾-inch chokes. This remarkable well has made more than a half million barrels of oil since its completion on April 16, this year. It came in with an initial production of around 4000 barrels per day through chokes; and has averaged around 2500 barrels per day from completion to date.

## Stocks Reduced Million Barrels In October

WASHINGTON, Nov. 28.—The outstanding result of operations in October is that net pipe line and tank farm stocks of crude petroleum were reduced more than a million barrels. This is the first reduction recorded for total pipe line and tank farm stocks since January 1924, prior to which the only decrease in these stocks since 1920 was in November and December 1922.

Daily average production and imports, amounting to less than 2,100,000 barrels were materially less in October than in any month since February, 1923 (except January 1924); and deliveries and exports were maintained at a point near the highest recorded — more than 2,100,000 barrels a day. Decreased production is reported for all the states except Louisiana and a few Eastern states. Imports were less than in any month since August, 1921.

### Daily Production of Crude Oil By States

| | October | | Change over Sept. |
|---|---|---|---|
| California | 603,115 | — | 7,159 |
| **Mid-Continent** | | | |
| Oklahoma | 499,853 | — | 23,107 |
| Kansas | 83,355 | — | 6,511 |
| Total Mid-Continent | 583,208 | — | 29,618 |
| **Southwestern** | | | |
| N. and Cent. Texas | 282,290 | — | 9,910 |
| North Louisiana | 50,064 | — | 603 |
| Arkansas | 121,290 | — | 5,443 |
| Total Southwestern | 453,644 | — | 15,956 |
| **Gulf Coastal** | | | |
| Texas Coastal | 72,097 | + | 2,897 |
| Louisiana Coastal | 8,451 | + | 2,018 |
| Total Coastal | 80,548 | + | 4,915 |
| **Rocky Mountain** | | | |
| Wyoming | 88,484 | — | 10,949 |
| Montana | 8,871 | — | 996 |
| Colorado | 1,516 | — | 351 |
| New Mexico | 581 | — | 85 |
| Total Rocky Mt | 99,452 | — | 12,381 |
| **Central States** | | | |
| Illinois | 22,839 | + | 105 |
| Indiana | 2,549 | — | 18 |
| Ohio (Lima) | 5,806 | + | 73 |
| Total Central States | 31,194 | + | 160 |
| **Appalachian** | | | |
| Kentucky | 20,536 | — | 274 |
| Pennsylvania | 22,548 | + | 1,015 |
| West Virginia | 17,452 | + | 1,119 |
| Ohio (except Lima) | 14,226 | + | 526 |
| New York | 3,935 | — | 299 |
| Tennessee | 13 | — | 10 |
| Total Appalachian | 78,710 | + | 2,077 |
| Grand Total | 1,929,871 | — | 57,963 |

**Indicated Daily Consumption**

(Deliveries by pipe lines and other Marketing Companies to refineries and other consumers, daily average.)

| | October | | Change over September |
|---|---|---|---|
| Appalachian | 72,935 | — | 1,032 |
| Lima—Indiana | 5,677 | + | 1,277 |
| Ill. and S. W. Ind | 27,355 | + | 4,322 |
| Mid-Continent | 999,484 | — | 77,483 |
| Gulf Coast | 85,548 | + | 15,815 |
| Rocky Mountain | 118,258 | + | 10,025 |
| California | 650,355 | + | 61,255 |
| Total Domestic | 1,959,612 | + | 14,179 |
| Exports | 45,064 | — | 13,503 |
| Consumed in U. S. | 1,914,548 | + | 27,682 |
| Imported Petroleum | 169,387 | — | 26,980 |
| Total Consumption in U. S. | 2,083,935 | + | 702 |

**Pipe Line and Tank Farm Stock**

(Domestic stocks by origin of oil, not location of storage.)

| | October 31 | | Change over Sept. 30 |
|---|---|---|---|
| Appalachian (N. Y., Pa., W. Va., E. and Cent. Ohio) | 6,930,000 | + | 188,000 |
| Kentucky | 2,406,000 | — | 9,000 |
| Lima, Indiana | 1,280,000 | + | 26,000 |
| Ill. and S. W. Ind | 11,231,000 | — | 83,000 |
| Mid-Continent (Okla., Kan., N. and Cent. Texas) | 181,663,000 | + | 797,000 |
| N. La. and Ark | 35,709,000 | + | 361,000 |
| Gulf Coast | 21,128,000 | — | 155,000 |
| Rocky Mountain | 29,201,000 | — | 583,000 |
| Total East of Calif | 289,548,000 | + | 542,000 |
| California, gross | 68,640,000 | — | 1,464,000 |
| **Imported Crude** | | | |
| Atlantic Coast | 197,000 | — | 67,000 |
| Topped Oil topped in Mex | 3,127,000 | — | 76,000 |
| Gulf Coast | 461,000 | — | 94,000 |
| Topped Oil topped in Mex | 401,000 | — | 167,000 |
| Total Imported | 4,186,000 | — | 404,000 |
| Grand Total Crude stocks except at Refineries | 362,374,000 | — | 1,326,000 |

**Imports and Exports of Crude Oil**

From Bureau of Foreign and Domestic Commerce.)

| Imports (daily average) | October | | Change over September |
|---|---|---|---|
| From Mexico | 148,258 | — | 15,142 |
| From Other Countries | 8,935 | — | 6,132 |
| Total Imports | 157,193 | — | 21,000 |
| **Exports (daily average)** | | | |
| Domestic Oil-To Canada | 28,613 | — | 21 |
| To other Countries | 16,451 | — | 13,482 |
| Foreign Crude Oil | 839 | + | 172 |
| Total Exports | 45,903 | — | 13,331 |

Excess of imports of crude oil over exports in October was daily 111,290 barrels.

## Many New Locations In Cotton Valley Area

COTTON VALLEY, LA., Nov. 28.—The Fortuna Oil Co.'s Cox No. 1, which offsets the Louisiana Oil Refining Corp.'s Lindsey extension and is located in the southeast corner of the SW¼ SW¼ of 15-21-10, is being bailed today to test forty feet of sand at a total depth of 2540 feet. Although bailing is being continued, the well has as yet failed to flow. It appears to lack the gas pressure which has been the life of the offset well. Oil rises to a height of about 800 feet in the hole. The completion of this well has been delayed several weeks by a difficult fishing job. The Lindsey well continues to flow at the rate of about 1,000 barrels of oil per day, net.

Moffett & Murphy's No. 1 Coyle, which offsets the Louisiana Oil Refining Corp.'s Gray extension in 28-21-10, was brought in last week with an initial production of 1,500 barrels of pipe line oil per day from a depth of 2564-77 feet. The Humble's recent completion, which offsets both the Coyle and Gray wells, is holding up well with an average production of around 2,500 barrels of oil per day. Production from the entire field now ranges around 12,350 barrels per day, net oil.

The Alabama Petroleum Co. is setting liner today to test two feet of sand at a total depth of 2512 feet in its No. 3 Pardee, located in 24-21-10, of the Eastern Extension.

The Humble, Ohio, Tidal, Louisiana, and Palmer Trust companies have made a number of new locations in and adjoining 28-21-10 of the Southwest Extension; and the Fortuna, Humble, Ohio, and Alabama companies are increasing their activities in the Eastern Extension.

S. S. Raymond et al are drilling below 3100 feet in their deep test in 21-21-10, in which it is proposed to drill to the Woodbine sand, hitherto untested on this and neighboring structures.

R. O. Roy and associates are drilling below 1200 feet in their Roberts wildcat in 9-23-10, Webster Parish, designed to test what appears to be the northern slope of the Shongaloo-Sarepta structure.

Kennedy and others have built a derrick on the Ambrose farm, near the center of 19-20-10, Webster Parish; and about six miles southwest of the nearest production in the Southwest Extension to the Cotton Valley Field.

## Rosecrans Field Shows Big Activity

LOS ANGELES, Nov. 28.—After several weeks of uncertainty, during which several companies had a mighty struggle with water troubles, the Rosecrans-Athens field is swinging into its stride and showing some surprising results in high gravity production.

Four completions and two recompletions is the record for the last seven days, the best of these wells being the Superior Oil Co.'s Maxwell No. 3, yielding 2500 barrels of 41.1 deg., gravity crude. This well is a companion of the Superior's No. 2, the first well to show 2000-barrel class at Rosecrans.

The other completions are E. J. Miley's Athens No. 1, doing 1320 barrels of 39 gravity oil at 4940 feet, E. J. Miley's Athens No. 2, yielding 900 barrels of 39 gravity oil at 4700 feet; Barnsdall Oil Co.'s O'Dea No. 1, yielding 900 barrels of 41.3 gravity oil at 4781 feet; Superior's Maxwell No. 3, doing 2500 barrels of 41.1 gravity oil at 4397 feet. The recompletions were the Union Oil Co.'s Gray No. 1, yielding 500 barrels of 41 gravity oil at 4156 feet, and Union's Chandler No. 1, doing 160 barrels of 37.5 gravity oil at 4045 feet.

More than 80 wells are in course of drilling at Rosecrans just now. Most of this drilling is being done by the Union Oil Co., General Petroleum Corp., E. J. Miley, Superior Oil Co., and Barnsdall Oil Co., but there are at least 20 different companies in the field.

The Union Oil Co. alone is drilling 20 of the wells. Nine of its string are in the oil sand and are expected to reach completion within two weeks. The Union wells are dotted in all parts of the field. The most interesting of its projects there is the Trust No. 1, a hole which did not pick up sand until it was down 5767 feet. This hole is now down 5801 feet. It has been reamed to the bottom and preparations are being made to run 5⅝-inch casing. Many operators are watching this hole and wondering if the Union will be able to obtain a satisfactory water shutoff at such a depth. If the well is completed and brought in it will be the deepest producing hole in the world.

## Gas Found In Deepest Well In The World

PITTSBURGH, Nov. 28.—In the world's deepest well, located at Long Bridge, Westmoreland county, Pa., the People's Natural Gas Co. has found production.

This test, started in 1922, and long since ceasing to be of interest to anyone except the company, reached a depth of 7428 feet and there struck gas amounting to about a half million feet daily. The victory was not clear cut, however, as the first rush of gas lifted the tools, dropped them and snapped the cable in two. Now there is a fishing job.

While another well had been drilled on this same structure, the Chestnut Ridge anticline, the new well does find a new gas horizon for the region. The first one went to 6822 feet and about three years ago found gas in the Oriskany sandstone. It is still producing and while the flow is not large, it has been remarkably well sustained. The production in the new well probably is in the Niagara formation.

The cost of this deep well is reported to be about $200,000.

## Mexican Gulf Attorney Drops Dead In Texas

Staff Special

HOUSTON, Nov. 27.—Judge Tom J. Lee, attorney at Tampico for the Mexican Gulf Oil Co., and an outstanding figure in the petroleum industry of Mexico, dropped dead last night at Mineral Wells, Texas, where he had gone for his health. Judge Lee, who was about 50 years old was credited with knowing more about Mexican law than most any legal advisor active in the Tampico district. Burial was to be at Austin, Texas, his old home. He had been ill several years with Bright's disease.

## Gulf Man At Houston Hunting Victim

HOUSTON, Nov. 28.—Funeral services were held Monday for David P. Clark, 34 of the executive department of the Gulf Pipeline Co., who had been killed the previous day in a hunting accident near Bay City. A shotgun in the hands of John Ligon, another Gulf employe, had been accidentally discharged inflicting the wound. Clark, formerly of Palestine, leaves a widow besides a father and mother, sister and brothers. Burial was in the Masonic section of Forest Park cemetery at Houston under auspices of Temple Lodge No. 4, A.F. & A.M. Active pallbearers were associates in the Gulf companies: L. E. Delauze, F. R. Oldham, L. S. Cooper, C. W. Breeding, O. Busby, and G. S. Buchman. Honorary pallbearers from the Gulf companies were Underwood Nazro, W. B. Pyron, E. C. Kincade, M. E. Brock, E. W. Hammond, J. H. Tucker, John Green, E. W. Gildart, T. J. Fatjo, L. H. Allen, A. B. Stradman, J. Z. Hill, M. M. Miller, C. M. Ewens, E. Olivari, L. J. Dorsey, J. A. Hunter, A. M. Smith, T. E. Nichols, L. P. Garrett, C. W. Boedeker, F. L. Buford, Carl Clemens, N. H. Perry, W. L. Sloan, and D. C. Proctor.

## Through Pullman Service Chicago To Tulsa

CHICAGO, Nov. 24.—Through Pullman service was started today between Chicago and Tulsa and is to continue indefinitely. The car will operate on Illinois Central and Frisco rails and will be the fastest way to travel between the two points, according to announcement issued from the office of W. G. Ferstel, district passenger agent of the I. C.

The car actually operates into Oklahoma City, by way of Tulsa, but the trip from Chicago to the "Oil Capital" is narrowed down to 19 hours and 15 minutes. Leaving Chicago at 11:45 a.m. on the Illinois Central's "Daylight Special" to St. Louis, arriving at 6:15 p. m.

Between St. Louis and Tulsa the car is made up in a Frisco train leaving St. Louis at 6:58 and reaching Tulsa at 7 o'clock the following morning. The car (probably empty) will go on with the train to Oklahoma City, arriving there at 10:45 the same morning. The return trip occupies about the same time.

The Chicago car leaves Oklahoma City at 7:35 a.m., leaves Tulsa at 12:10 p.m., and reaches Chicago the next morning at 7:43 o'clock.

### Course in Oil Engineering

LAWRENCE, KANS., Nov. 28.—The University of Kansas, through its school of engineering, has provided for courses in oil field engineering, so arranged that they may be elected by students of either mechanical or mining engineering. The university has for years had a strong course in petroleum geology, but the oil and gas field engineering is new to this institution.

### Barnsdall Sales Aid Shot

TULSA, Nov. 29.—A Thanksgiving hunting trip ended somewhat disastrously for J. C. Evans, assistant sales manager for the Barnsdall Refining Co. Evans was accidentally shot in both feet by a companion on the hunt. His feet were pierced by 15 shot. The injury is not considered serious.

### Opens Canadian Office

TULSA, Dec. 1.—The Cameron Oil Co., oil marketers with general offices in the Kennedy Bldg., Tulsa, is opening a sales office at 2 Ouellette Ave., Windsor, Ont. The office is in charge of F. E. Harvey, formerly manager of the Illinois refinery at Bristow.


**TRIBAL OSAGE OIL LEASES**

**at Public Auction, December 18, 1924**

***By U. S. Government***

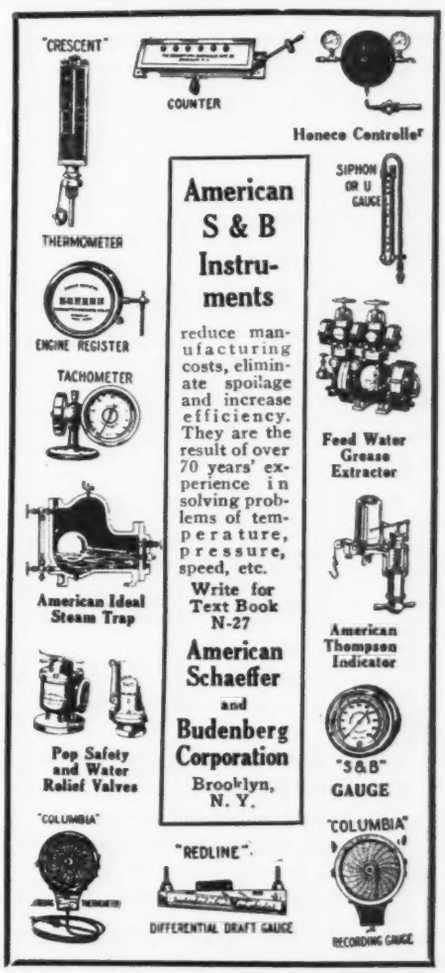
December 18, 1924, at Pawhuska, Oklahoma, about 30,000 acres will be offered for oil leases in quarter section tracts. Bids will be for bonus in addition to royalties, 25% payable on day of sale, balance in three annual installments, with acceptable security.

Within advertised area there are about 9,200 oil wells producing from one barrel to two thousand barrels each, the total daily production for September, 1924, being about 100,000 barrels; also there are about 150 wells drilling. All lands are now leased separately for gas.

Blue print maps of area advertised, showing tracts producing oil or gas, can be had for fifty cents each, also logs of producing oil or gas wells for 25 cents each well.

Write U. S. Superintendent, Osage Agency, Pawhuska, Oklahoma, for maps, logs, or other information.





## Power Supply Bettered By Fall Rains

By Special Correspondent

LOS ANGELES, Nov. 28.—Now that the winter rains have set in and to a certain extent have relieved the hydroelectric power shortage which caused California industries to be placed on power rations during the spring and summer, oil operators are changing back, in many cases, from gas engines to electric motors, for drilling and pumping.

Many of the big companies are again utilizing such electric facilities as they were forced to shut down during the months of "juice" shortage, and are substantially adding to their existing facilities. In the Los Angeles Basin fields more than 100 drilling wells have changed back from gas engines to motors. The Chanslor-Canfield Midway Oil Co. at Torrance is using nothing but electricity.

The San Joaquin Light & Power Co. at Fresno, Calif., which supplies juice for the San Joaquin Valley oil fields, is making preparations to furnish oil operations with an additional 3000 horsepower per day during the coming year. O. A. Kommers, district manager of the company reports the following new equipment to install in the San Joaquin Valley fields:

Pan-American Petroleum and Transport Co., 28, 20-50 motors for pumping; Interstate Oil Co. 4, 15-30 motors for pumping; Midland Oilfields Co., Ltd., 4, 15-30 motors for pumping; F. F. Richards, one 75-horsepower motor for drilling; D. C. Van Nostrand, one 75-horsepower motor for drilling; Balboa Oil Co., 6, 15-30 motors for pumping, also one 75-horsepower motor for line pump; Belridge Oil Co., one 5-horsepower motor for new compressor plant; Tamalpais Oil Co., one dehydrater; Ruby Oil Co., 3, 15-30 motors for pumping; Gilmore Oil Co.,12, 1-2-horsepower for gas plant; Baash-Ress Tool Co., total of 50 horsepower for shop, and Reward Oil Co., at Reward, which will add 500-horsepower for pumping.

### Accidents in Oklahoma Industry

WASHINGTON, Nov. 29.—A study of 3800 separate accidents that occurred in the oil industry of Oklahoma in 1923 has been made by H. C. Fowler, associate petroleum engineer of the Department of the Interior, attached to the Bartlesville, Oklahoma, station of the Bureau of Mines. The accidents occurring in each of the departments of drilling and producing, pipe lining and refining were segregated, and the number of accidents, as well as the number of days lost time, computed for each department. The accidents in each department were then classified by causes. A graphic chart has been prepared to show the results of the compilation.

## Lake Basin District Gets Second Well

BILLINGS, MONT., Nov. 28.—Midwest Refining has drilled in its second well in the Lake Basin oil field of Montana, formerly called Big Lake, which was discovered by this company a few months ago. This is an offset of the discovery well and is called Modrell No. 2.

The field is commercial, but it has puzzled the operators and will require unusual methods. The discovery well flows by heads, but the heads are too far apart to make it a regular commercial producer if natural flow is depended upon. However, when the pump is put on the well agitation causes the heads to come more frequently and makes pumping impractical.

The second well which entered the sand seven feet Wednesday night, has 700 feet of oil standing in the hole. The sand was encountered at 3843 feet and the well is bottomed at 3850 feet.

Four other wells are drilling, as follows: Price-Lindsay No. 1 northwest quarter of 23-1-21, running 6¼-inch pipe at 3425; Putnam No. 1, southwest quarter of 13-1-21, changing from rotary to standard rig at 2960; Luce No. 1, northwest quarter of 35-1-21, running 10-inch casing at 2420; Red Lodge No. 1, southwest quarter of 23-1-21, drilling at 1575.

The choice of two pipe line routes from the field to the railroad are offered, one eight miles and the other sixteen miles, with the latter offering advantages of better rail facilities. The district is thirty-five miles west of Billings. Tanks have been built at the field to handle 10,000 barrels of stored oil, and the pipe line will be laid and shipments started when enough wells are drilled in to warrant this step. This oil is very high in gasoline but congeals to the consistency of vaseline at 50 degrees.

No. 1 Hepp, the discovery of the field, came in at 3850 feet and is now bottomed at 3922 feet. It is estimated to be good for 300 barrels.

### May Drill Test Well

CLEVELAND, O., Nov. 28.—It is reported that the Standard Oil Co., of Kentucky, will soon enter the producing division of the industry. The company is said to have taken a large block of acreage in Clay county, eastern Kentucky, and to be planning to drill a test well.

### Adds to Shale Reserve

WASHINGTON, Nov. 28.—The size of the naval shale oil reserve No. 2, in Utah, has been increased by 4880 acres through executive proclamation issued by President Coolidge. The new territory had been granted to the state of Utah for school land as non-mineral lands and has recently been re-classified as mineral bearing. The reserve now covers 91,464 acres.

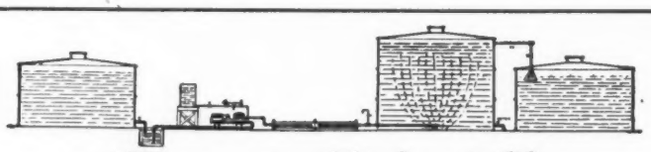
### May Tax Receivership Oil

WASHINGTON, Nov. 28.—The supreme court of the United States has upheld the right of the state of Texas to collect gross production tax on oil produced in the Red River boundary which was under the jurisdiction of a receiver while the Oklahoma-Texas boundary dispute was in litigation. The decision affects only that part of the receivership zone that was found to be in Texas.

### Brewster Goes to Ardmore

ARDMORE, OKLA., Nov. 29.—Frank M. Brewster, formerly assistant deputy supervisor for the Bureau of Mines at Taft, Calif., has been transferred to Ardmore to have charge of the Bureau's field office. Prior to his going to Taft Mr. Brewster was in the Casper, Wyo. office of the Bureau. He succeeds at Ardmore, H. C. George, now professor of petroleum engineering at the University of Oklahoma.

HICKMAN, NEB., Dec. 1.—The Hickman Oil Co., of which C. J. Stover is proprietor, has recently added a third truck to take care of its increasing business.

Tret-O-lite

*Reg. U. S. Pat. Off.*

PROCESS PATENTED. The Barnickel processes for treatment of cut oil and other petroleum emulsions by the use of chemical agents are protected by valid process patents issued by the United States and foreign countries.

The purchaser of TRET-O-LITE is licensed to practice the Barnickel processes to the extent permitted by the quantity of TRET-O-LITE purchased. He is not licensed to use any other chemical covered by the Barnickel patents, either alone or with TRET-O-LITE.

**WM. S. BARNICKEL & CO.** **St. Louis, Mo.**

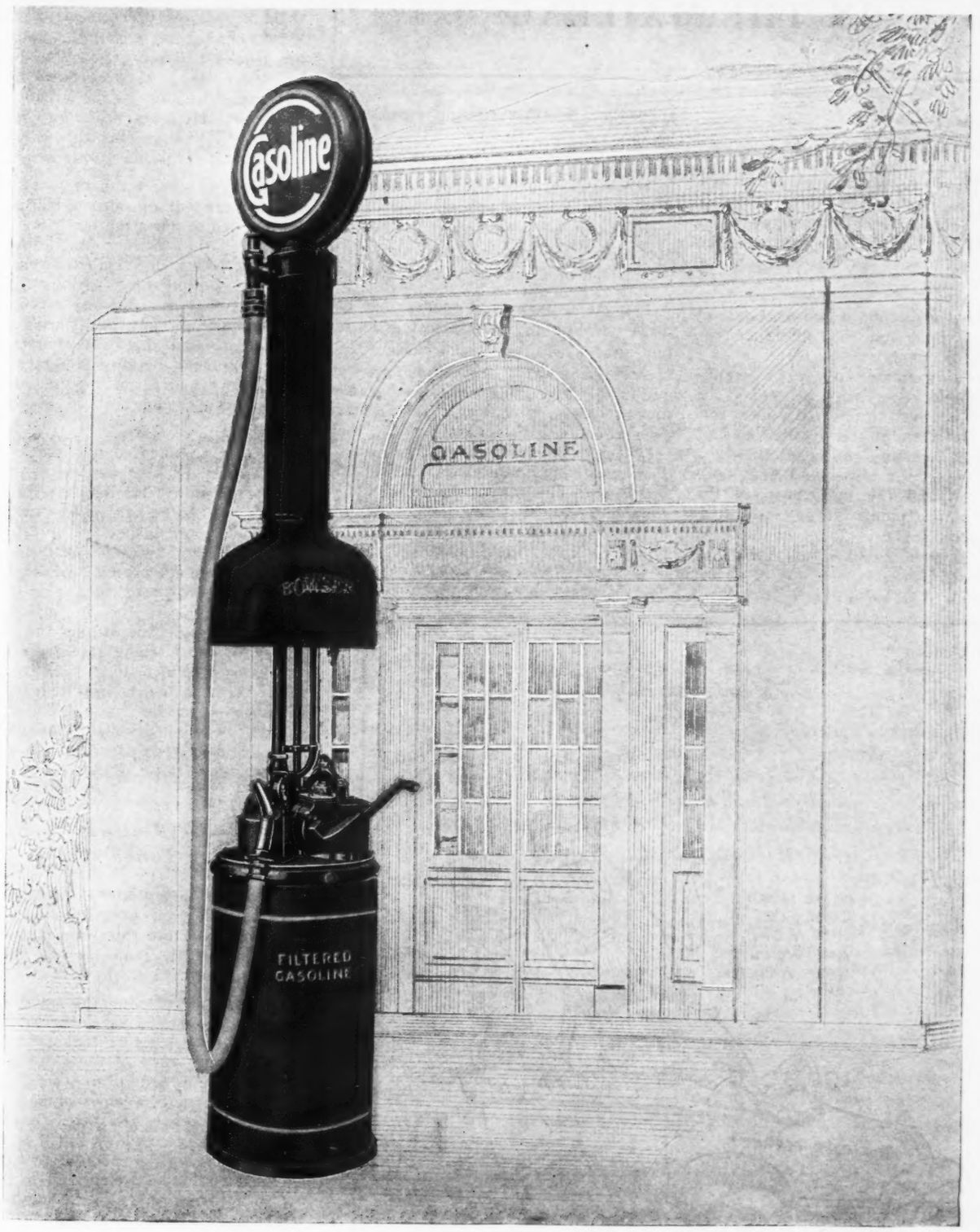



Figure 102---"Chief Sentry"---Eleven Years Old---Tried and Proved.

# S.F. Bowser & Company, Inc.

*Pump and Tank Headquarters*

FORT WAYNE, INDIANA.

*Sales and Service Offices and Representatives Everywhere*

# IN THE MAILBAG

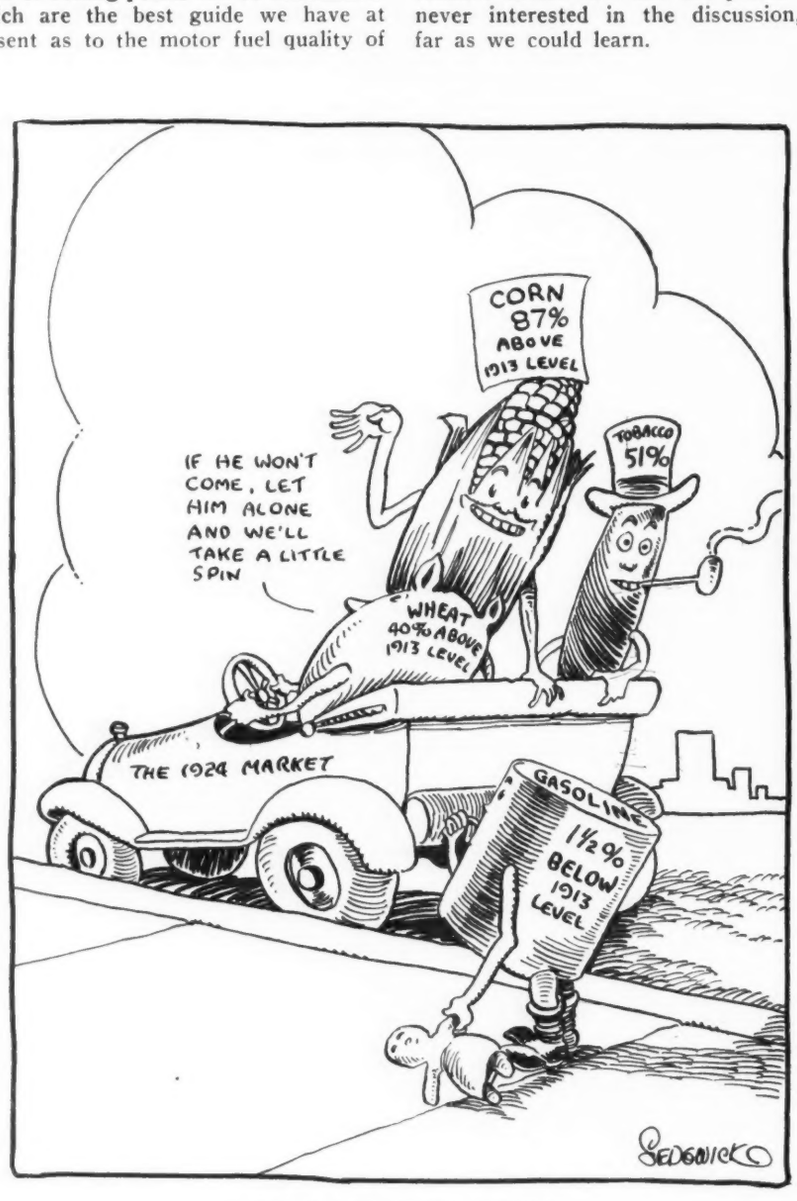
### *Can You Tell A Blended Gasoline?*

"HOW can a wholesale purchaser tell if the refiner he buys from is sending him a straight gasoline or a blend in which natural gasoline has been used?" asks an eastern jobbing company.

Frankly, we doubt if the average oil company could tell the difference between a correctly made blend and a straight-run gasoline; and, just as frankly, we don't know why he should be worried, or even interested, over this point. By running the distillation test, which any company can conduct with a little practice, the initial and final boiling points and the uniformity of the chain of boiling points can be established which are the best guide we have at present as to the motor fuel quality of a gasoline, whether straight gasoline or blend.

A poor blended gasoline will show up in the distillation test, when reduced to a curve, in a nearly straight line at the start and then a break when the heavier portions of the gasoline start to vaporize, instead of a uniform sweeping curve.

The great majority of refiners use natural gasoline in manufacturing motor fuel grades of gasoline, because it increases the amount of gasoline they can get from their crude and also because, in most cases, it enables them to make even a more satisfactory product than they could get from their crude alone. The marketing industry is fast getting away from the idea a blend is not a suitable motor fuel and the public was never interested in the discussion, as far as we could learn.


CORN 87% ABOVE 1913 LEVEL
TOBACCO 51%
IF HE WON'T COME, LET HIM ALONE AND WE'LL TAKE A LITTLE SPIN
WHEAT 40% ABOVE 1913 LEVEL
THE 1924 MARKET
GASOLINE
1½% BELOW 1913 LEVEL
SEDGWICK

**The Red-Headed Step Child**

### *Brings Up Point On Truck Operation*

"HAS anyone ever called to your attention that fact that running motor trucks delivering gasoline, particularly in cities, is slowing down because of increased traffic on the streets?" asks a reader. He goes on to say that his company is recognizing this as a problem calling for some attention to solve.

Doubtless other companies have noted this same condition, although it has not been called to our attention before. Warren C. Platt, publisher of National Petroleum News, has called attention in editorial comment at various times in the past that oil company motor truck equipment was not being used to get the most from the money invested in this equipment, because of the comparatively few hours out of the 24 when trucks were being used in making deliveries.

He has commented that trucks could just as well be kept moving at night as in the daytime, and that the only time trucks need to be kept idle is when they are undergoing inspection or repairs or being oiled and greased. With the problem of combating street traffic becoming more and more vital it is possible the remedy will be in making deliveries at night to stations and garages carrying considerable storage, when the streets are comparatively free from traffic. With such deliveries taken care of at night as far as possible, those trucks would be free during the daytime to handle country deliveries and operate where road traffic is the least handicap.

### *How To Get Gaging Tables For Tanks*

TANK gaging tables are always in demand by oil companies who either have not at hand rules and methods for strapping their tanks or do not want to take the time to do it.

Nearly all of the tank building concerns have tables carefully worked out covering the sizes of tanks they manufacture and some of them cover all the usual sizes in general use, whether made by their own companies or not. A jobber who writes to three or four of these tank companies for their gaging tables on both horizontal and vertical types would be pretty sure to get figures covering any tank he might be using unless it was very old and of an obsolete size.

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MALEEN, MASS., Nov. 29.—J. J. Carrigan, who has had experience in service station business, recently completed an attractive station here, known as the Jacey Service Station. Mr. Carrigan is handling Jenney gasoline and Gargoyle Mobiloils, and reports an ever growing business, according to H. C. Vivian, salesman for the Vacuum Oil Co. in this territory.

# THE EDITORS' VIEWPOINT

## Hoover And The Oil Industry

THE excellent work of the Department of Commerce under the direction of Secretary Herbert Hoover seems not to be fully appreciated even in industries which have been greatly aided in the extension of foreign markets.

What has been done for the oil industry during the fiscal year ended June 30, last, is set forth briefly in Mr. Hoover's annual report to the President. During that year 90 special circulars dealing with various phases of the petroleum trade in many countries were issued, in addition to surveys of the petroleum industries of Poland, Peru and Ecuador, and Japan. A survey of the oil industry in Russia was in course of preparation. A total of 142 trade opportunities for the sale of American oil abroad was handled.

The department has also established a price information service, giving quarterly reports on the prices of gasoline in the principal foreign market. During the year 3134 inquiries concerning foreign oil markets were handled. Special reports were prepared for individual American oil companies.

Secretary Hoover's department surely is one of the bright spots of the government at Washington—one of real, constructive value. Oil companies that have not taken advantage of the opportunities to acquaint themselves with foreign market possibilities that the department affords, are overlooking a golden chance to intrench themselves in many foreign fields. Mr. Hoover and the staff he has organized, deserve the complete approbation of the oil industry, especially at a time when domestic markets have been glutted by overproduction.—R. B. S.

## Broad Appeal In Institute Program

THE manner in which the ranks of the oil industry have been taking part in the activity of the various associations in the industry during the past year or so, is an encouraging sign of the growth and progress of the business generally.

Not so long ago the associations of the industry were considered as existing for the executives of companies almost exclusively. The head of the company attended the meetings and took part in the deliberations. If he could not come personally he would designate an understudy. It was not the custom for men down the line, heads of departments, superintendents and so on to attend, and there was little in the association work to interest them.

Some organizations realize the value of carrying on work for these men in the ranks of the companies. The Natural Gasoline Manufacturers' Association has conducted group meetings in the field for plant superintendents with gratifying results in interest shown and benefit obtained from interchange of ideas from these practical operating men.

The National Petroleum Association has enlarged its activities to take in more work by and for plant superintendents. President Keeney reports the executives of the association are highly pleased with a district conference at Bradford, Pa., where plant superintendents met to discuss their problems, many of these men meeting for the first time with others carrying on the same kind of work. There were many new faces at the recent convention of the National Petroleum Marketers Association in Cleveland. It was not unusual for the head of the company to bring another man from his company with him to benefit in the discussion and interchange of ideas.

The annual meetings of the American Petroleum Institute are coming more and more to be regarded as appealing to men in the ranks in all branches of the industry, as well as company executives. The active work of the institute is largely carried on by committees, and it is surprising how much of the work of these committees—and it has been most valuable work to the industry also—has been carried on by plant and field men, heads of traffic departments and so on. Every executive contemplating taking in the coming institute meeting at Fort Worth would do well, looking at it from a selfish point of view, to pick out ambitious men in his company who are going to be the executives of the future, and take them with him to Fort Worth.

The business has too long held to the fetish that interchange of working ideas was going to disclose precious secrets that existed for one company alone. Many a man who finally came into a position to discover what other companies were doing, has learned that someone else, sometimes several others, were working out the same ideas that he thought were locked is his own head alone—and doing a better job of it than he. It means fine broad-mindedness that bespeaks well for the future of the business, when there is interchange of working methods such as takes place at the institute meetings and the sessions of other oil associations.—V. B. G.

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We're all so busy going to $2.50 dinners and $4 shows downtown that we haven't got time any more to complain against the bitter injustice of paying 20 cents a gallon for gasoline.

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The next Osage sale Dec. 18. Well, the Osage Indians must believe in Santa Claus, whether anyone in the oil business does or not.

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Maybe the reason times seem to be better over the country is because we haven't had Congress to contend with since last Spring.

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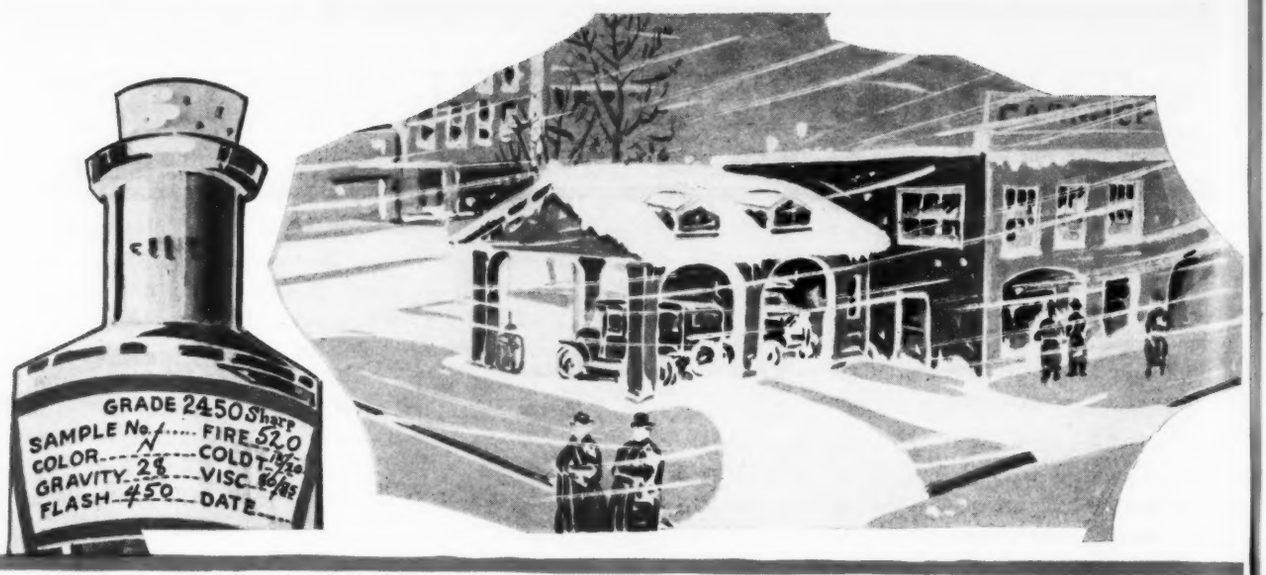
Opening the income tax lists makes it the great American "public" in fact, as well as oratorical figure of speech.




# Center your winter business on Ohio Valley motor oils.

Cold weather business for the Jobber or Dealer who has Ohio Valley Oils in stock means just one thing—serving the same old customers with the same high quality lubricants they are accustomed to getting through the rest of the year. For Ohio Valley Motor Oils are month-in, month-out sellers. With a cold test as low as 15, they eliminate all necessity for changing to other oils when winter conditions must be met.

The introduction of Ohio Valley Oils not only raised the standard of Pennsylvania Motor Oils but, through their notable cold test achievement, enabled the dealer to meet the demand for Pennsylvania quality Oils through every month in the year.

Ask for samples and specifications of these Pennsylvania winter sales producers.

Ohio Valley Refining Co.
ST. MARYS, W. VA.

Guaranteed 100% PURE PENNSYLVANIA OIL

# Ohio Valley

# Third Phase Of Important Development Being Entered In Kansas

**By Paul Wagner**

STAFF REPRESENTATIVE

**Article 4**

KANSAS, for the third time, appears to be coming into her own again as an oil producing state.

It will be remembered that the first discovery of petroleum west of the Mississippi River was made in Miami county, Kan., on Wea Creek, 100 miles northeast of Independence, in 1855.

Seepages were found at this point, where oil dropped from fissures in the rocks and covered the surfaces of streams.

Although there was intermittent activity in the area, Kansas production did not reach a commercial stage until the year 1890, when the Guffey & Galey combination entered the field and conducted what was at that time a rather extensive drilling campaign from Ossawatomie and Paola, on the East, to Neodesha, Cherryvale and Coffeyville on the West.

Drilling equipment of the period was light and the oil found at comparatively shallow depths, so that few wells carried below 500 feet.

After spreading as far north as Iola and Chanute, the productive area was pushed across the northern border of what was then Indian Territory. The "wildcatting" moved southward and a few years later resulted in the "discovery" of Glen Pool and Bird Creek.

A large share of the credit for the "discovery" of these fields must go to those venturesome pioneers who dared drill to greater depths than their predecessors.

### Second Phase of Development

The discovery that deeper drilling might yield greater returns from underlying horizons reacted eventually to the benefit of Kansas after Oklahoma had taken its place in the forefront of Mid-Continent production. For Kansas operators, following the example of their neighbors to the south, drilled deeper to the westward of the originally exploited area and met with increasing success.

Finally, there resulted the "discovery" and exploitation of the prolific pools of the El Dorado, Towanda, Augusta and Peabody-Elbing districts, all of which reached their important stages of development after 1917.

As these fields began to wane, tremendous efforts were made to extend the production frontiers; but without any but the most mediocre success until the latter part of 1923, when the "discovery" of the Rainbow Bend field, in the southern Cowley county, again raised the hopes of operators in Kansas and started a program of drilling still further westward.

New drilling resulted in the opening up of two Wilcox series pools, the Graham field, four miles northeast of Rainbow Bend, in which the "discovery" well was drilled by the Marland interests, and the new Carson development opened at the end of October, 1924, by T. B. Slick, seven miles north and west of the Rainbow Bend field.

Activities to the southwest of Rainbow Bend have also yielded results in the "discovery" of the Duncan field, three miles northeast of the town of Braman, Okla. Production in this field lies just beyond the state line on the Oklahoma side.

Core drilling is yielding some remarkable results in the general area, but the only sure conclusions regarding the productivity of the region will have to be shown by the drill.

### Characteristics of Rainbow Bend

The Rainbow Bend field, which was discovered late in 1923 by Waite Phillips, presents a different type of production than do the pools surrounding it. It has been pretty definitely established that the field is producing from a sand similar to that at Burbank, Okla., if indeed it is not the Burbank sand itself, and that structural features probably do not control. Rainbow Bend is about 27 miles northwest of Burbank.

Wilcox sand pools in the adjacent area are, however, located on good structural evidence.

It is a generally accepted conclusion that the Rainbow Bend field lies on the axis of the well known granite ridge, upon which are also located the El Dorado and Augusta pools. These, however, produce from a limestone formation and not from a sand level as at Rainbow Bend.

Considerable "wildcatting" has been done in the intervening area along this structural feature in the last few years. Until the "discovery" of Rainbow Bend, however, no new fields had resulted. That area, together with the territory on both flanks of the ridge, now probably will be explored even more thoroughly.

### Area of Future Testing

Testing such as this would affect parts of Butler, Sedgwick, Sumner and Cowley counties. "Wildcatting," however, doubtless will spread further afield. Progress of development to the westward also will bring the operator in contact with conditions different from those encountered in the older producing districts to the east.

The future of this new area is by no means proved, but

## What After Cromwell And Stroud?

THE next article in this Wagner series will discuss East Central Oklahoma, being concerned with what may possibly develop in areal extensions of the already defined production lines in this territory. Possibility of increased production from deeper drilling to the Wilcox Sand horizons in and adjacent to fields already discovered has been discussed in earlier articles.

Possibilities exist for important production inside present general boundaries, Mr. Wagner will point out in this next article, while extensions to the general producing territories are also possible.

In this article in this issue Mr. Wagner discusses the trend of development in southeastern Kansas, including Washington and Nowata counties in Oklahoma, which he says will be thoroughly explored by drill, with always the chance of new territory being added here to known fields because of the greatly improved methods the producing industry is using now—Editor.

# A Splendid Line of

INCORRUPT

I have broken my Soul to harness,
I have taught it to toil for me;
I have driven it over the farness,
Of river and hill and sea.
Yet, Soul, I have not degraded
The Soul of myself within—
Yet, Soul, I have never traded
And given you unto sin.

I have led you by rein and halter,
I have peddled my strength and youth,
But never a bribe could alter
The thing that I thought the Truth.
And, when I shall loose the tether
When we wait at the final place,
When we stand before God together,
I may look at you face to face.

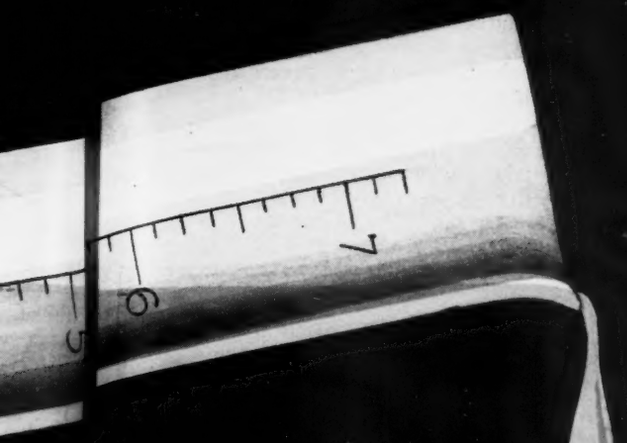
—*Douglas Malloch*

## ELLIOTT JONES & CO. INC.

REFINERS OF PETROLEUM

SAN ANTONIO · TEXAS

# of ZEROS



CORRUPTNESS in the oil business can no more withstand the scrutiny of time than can a house built on the sands withstand the storms of multiplying years. Congressional persecution of business is not necessary or wise. The regular processes of law can properly deal with all miscreants.

We have endeavored and succeeded in building our Company upon a foundation solid enough to endure through the years of hardship and depression in the oil business, and have emerged enjoying the confidence and good will of our customers.

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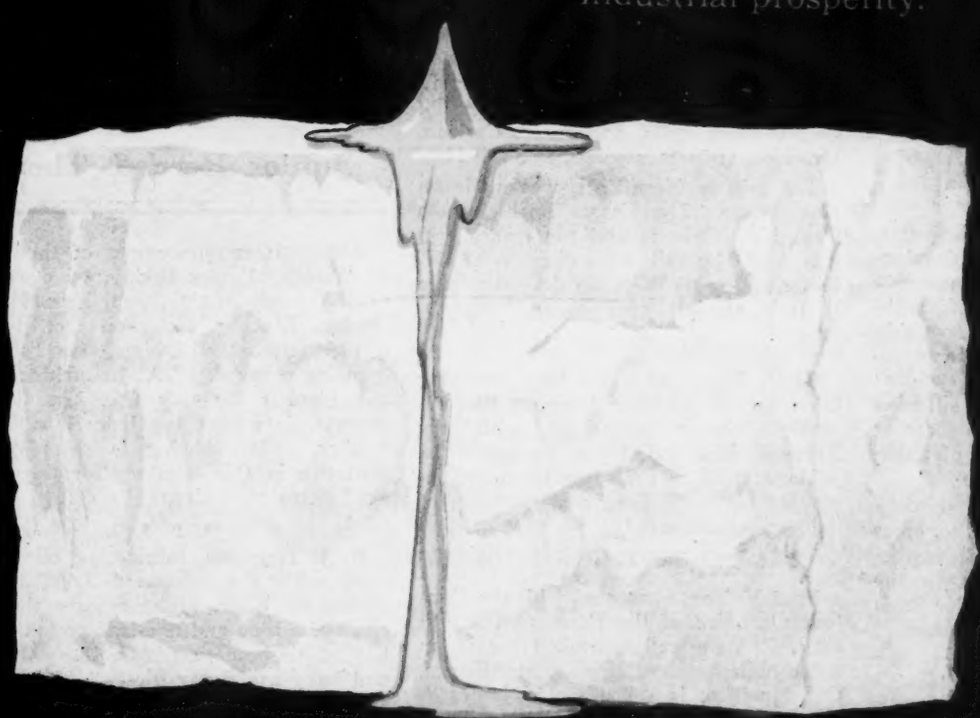

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## ELLIOTT JONES & CO. INC.

REFINERS OF PETROLEUM

SAN ANTONIO · TEXAS

so long as the indicated possibilities are what they are the industry appears willing to pay the price it will cost to take its measure.

At first glance, it may seem that this territory is being made to encroach upon that previously outlined as a part of Western Kansas. It is not impossible that the time may come when the two areas may occupy a single place in the mind of the industry. Be that as it may, not enough work has been done to enable the industry to definitely draw a boundary between the southeastern part of that district which is now called western Kansas and this other new development along the southern line of the state.

The buried granite ridge, which trends northeast across the state from Butler county and the influence of which plays out to the southwest in Oklahoma, has doubtless exerted a considerable influence on conditions in this part of Kansas.

Subsequent to the development of the El Dorado and Augusta fields, which lie along the axis of the ridge, several tests were drilled to the northward along this line of folding, but without result.

Westward from the El Dorado-Augusta development, a change in the character of the beds in the geologic sequence, added to the lack of structural evidence, limited development in that direction.

To say that the northeast quarter of the state of Kansas constitutes prospective oil producing territory is to violate the sanctity of an opinion which the industry in general appears to have accepted as a fact. Further, such a statement would contradict some of the recognized geological conclusions; nevertheless, the "wildcatter" is abroad in the land and there is an oil field in Western Kansas, which a few short years ago was outside the pale.

### Status of Older Fields

That part of Kansas which lies eastward from El Dorado-Augusta development and includes what is commonly known as the shallow district of southeastern Kansas has been thoroughly prospected; and, aside from the possibilities of deeper production, such as is now being exploited at the siliceous lime (Wilcox) horizon, does not present any encouragement in the way of quantity production.

In that respect, the shallow development in southeastern Kansas, together with that in Washington and Nowata counties, Okla., is comparable to the status of development in the older fields of the Eastern producing province.

The Cherokee shale, which is the lowest member of the Pennsylvanian in southeastern Kansas, is the principal producing horizon in this area. It is overlain by the thin-bedded limestones, shales and cherts which are so characteristic of the Pennsylvanian series at this point.

Beneath the Cherokee shale occurs the Boone, or Mississippi, limestone, which until the recent "discovery" of Wilcox production in the district marked the lowest limit at which production might be expected.

To the east of this shallow development lies the Ozark uplift, which, because of the structural conditions obtaining, is not generally considered likely ground for production.

While there are some broad, gentle structural features in the shallow producing district of southeastern Kansas and northeastern Oklahoma, production does not follow them. There is little question but that the reservoir beds in this area are sandstone lenses interbedded in shale and local in extent.

The area of shallow production in Washington and Nowata counties, Okla., has been presented with that of southeastern Kansas, as it unquestionably belongs to the same producing sub-division and is governed by a similar set of conditions.

As was pointed out in a preceding discussion there are possibilities in this territory for additional production at the deeper Wilcox levels.

# HERE AND THERE

**Leonard L. Leonard, southwest district** manager of Tide Water Oil Sales Corp., and several Veedol distributors who made up the party, have just returned to the southwest after a week's visit at the New York headquarters of the Tide Water where they met the executives of the company and visited the Bayonne refinery.

Included in the party were: E. E. Phillips, vice president in charge of marketing, and Fred Cordell, general superintendent in the marketing division, Waite-Phillips Co., Tulsa; A. D. Tillman, retail manager, Caddo Central Oil & Refining Corp., Shreveport; R. E. Megee, manager, Veedol department Auto Dealers' Supply Co., San Antonio; R. Aprill, sales manager, Joseph Schwartz Co., Inc., New Orleans; L. L. Boardman, manager, Boardman Oil Co., Wichita Falls, and A. T. Carlson, Mr. Leonard's star salesman in 1924.

The trip to New York was made on Nov. 12 on "The Comus" which sails from New Orleans and the return trip was made by rail, according to G. M. King, editor of "The Spade," the Tide Water's official house organ.

* * *

**C. G. Selby, who has been covering** Ohio for the Sinclair Refining Co., recently became associated with the Transcontinental Oil Co. to cover the Jobbing trade in the same territory, according to W. J. Loufman, manager of the Transcontinental.

* * *

**Fred V. Fox, connected with the Can**ton, O., office of the Pennzoil Co., Oil City, Pa., suffered a broken leg in an automobile accident Nov. 23 at Alliance, O. Mr. Fox is a brother of James J. Fox, sales manager of the Pennzoil Co.

* * *

**A. H. Hager is now sole owner of the** Wichita Home Oil Co., having purchased the interest of C. A. White, who has moved to Tulsa to enter the oil business for himself.

**Louis J. Root recently disposed** of his holdings in the Root Refineries, Inc., Shreveport, La., and all stock is now owned by D. S. Brooks, president and treasurer, and D. P. Hamilton, vice president and secretary.

* * *

**J. E. Mason, formerly clerk at** the New Britain, Conn., plant of The Texas Co., has been transferred to assistant agent at Hartford, Conn., according to J. H. Brown, agent.

* * *

**David T. Smith, formerly with** the Dixie Filling Station, is now organizing a new company at Hartford, Conn., to be known as the Yankee Filling Stations.

## Junior Here & There

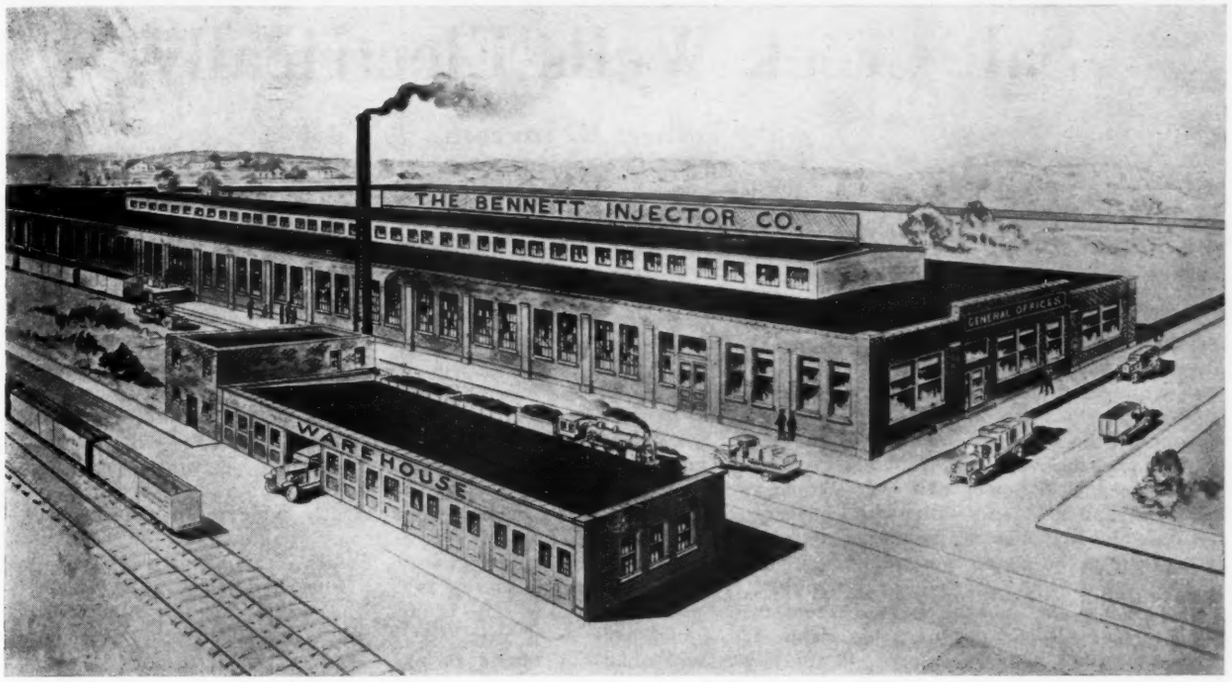
**Although announcement of the** birth of Dorothy Louise Ewing, who arrived at the home of Mr. and Mrs. H. V. Ewing, Lincoln, Neb., on Oct. 14, is a little late, Mr. Ewing says "she is growing every day." A. J. Burkhardt of the Sinclair Refining Co., Mr. Ewing reports, says that the baby is a cornhusker. Mr. Ewing is sales representative in this territory for the Roxana Petroleum Corp.

* * *

**R. J. Harpster, lubricating oil** salesman with the Standard Oil Co. of Nebraska, Blair, Neb., reports the arrival of a nine and one-half pound baby boy at his home, on Nov. 18. "Mother and baby are doing nicely," Mr. Harpster says.

* * *

**Jo Ann, weighing eight pounds,** arrived on Nov. 13 at the home of Mr. and Mrs. Harold H. Rosenberger. Mr. Rosenberger is salesman in the Omaha division of the Standard Oil Co. of Nebraska.




# To Better Serve You

The new Muskegon plant of the Bennett Injector Company, shown here, is the natural consequence of the rapidly increasing demand for the Handy Ben line of grease and oil dispensing equipment.

Handy Ben

**Best by Users Test**

It is a model of plant efficiency in every detail. All work is done on the "straight-line" plan, which means better work and increased volume without increase in manufacturing costs. The benefits of our ability to produce a higher quality product than ever before will be passed on to the oil marketer.

## BENNETT INJECTOR COMPANY

***Oil and Grease Dispensing Equipment***

**Muskegon, Michigan**

# Midwest About Ready To Operate Its Salt Creek Wells Electrically

**By Tolbert R. Ingram**
**Special Correspondent**

DENVER, Nov. 28

THE Salt Creek field in Wyoming is undergoing a transformation of more than ordinary interest as a result of the completion of an electrical installation by the Midwest Refining Co. to furnish power for the pumping of wells, drilling operations, and other field activities, which embraces some features out of the ordinary. The installation is probably the largest and most modern electrical power unit ever installed in any oil field and will make of Salt Creek the first electrically operated major field in the Rocky Mountain district.

The Midwest has been able to approach the development under the most favorable circumstances. The field is still young and the work of electrifying could be applied on a broad scale in a most comprehensive manner in anticipation of the time when power instead of gas pressure would become necessary for lifting the oil to the surface. Much of the land in the field is owned by the government and leased to the operators under agreements which provide for systematic development under the most approved scientific methods with less of the competitive drilling which often results in waste in order to hurry the oil to the surface in some fields.

The pumping of wells in Salt Creek was practically unknown a few years ago. Comparatively few wells had been drilled and the gas pressure was sufficient for all the wells to produce by natural flow. It was inevitable that as the drilling progressed that the gas pressure would gradually decline and that power would have to be used for lifting the oil. The field department anticipated the time when the change would come as far back as 1921 and began its investigations of the field's probable requirements, the most economical methods of lifting the oil, available water supply, types of machinery, motors and equipment, and all phases of the problems that would have to be met. The study was an exhaustive one covering investigations of methods in other fields of the country in which was granted the most liberal co-operation of other companies possessing data compiled from actual operations. Out of this extensive research grew the decision to adopt electrically driven equipment and the installation of the units with which to generate the power.

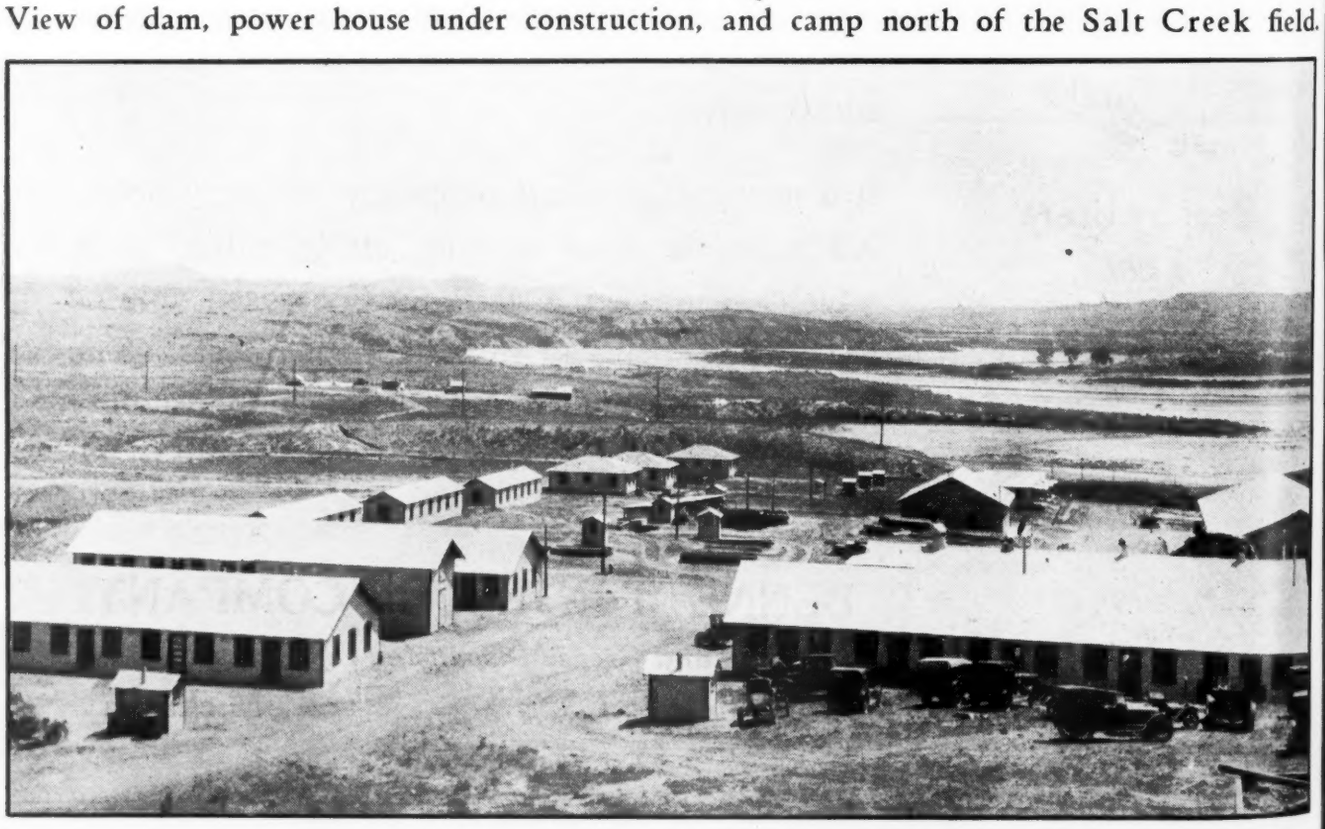
One of the first problems that had to be solved was to provide an ample supply of water. Salt Creek is located in an arid area through which flows no perennial rivers or small streams such as are commonly known. But it is crossed by several creek beds which at intervals during the year carry large volumes of flood water from the lands which they drain, though at other intervals they are dry. This problem was solved by the construction of a dam at a point 4½ miles north of the Midwest home camp in the vicinity of the old Shannon field at the north of the Salt Creek structure. This dam has a concrete core and is 47 feet high and 960 feet long and sufficiently wide for a roadway across the top. It impounds the flood waters of Castle, Teapot and Salt Creeks and has a storage capacity of 21,000,000 barrels. The water thus impounded is used to supply the steam generating plant.

### Plant Is Near Dam

The power plant was constructed close to the dam, on the south, and was built of steel and concrete and is fireproof. It was designed to afford plenty of light as was shown by the installation of 5400 window panes. Four smoke stacks 96 inches in diameter rise 48 feet above the roof.

The plant is equipped with four Babcock & Wilcox water-tube steam boilers of 1300 horse power each, carrying 275 pounds of steam. The fuel for the boilers will be gas from the company's wells in Salt Creek after it has passed through

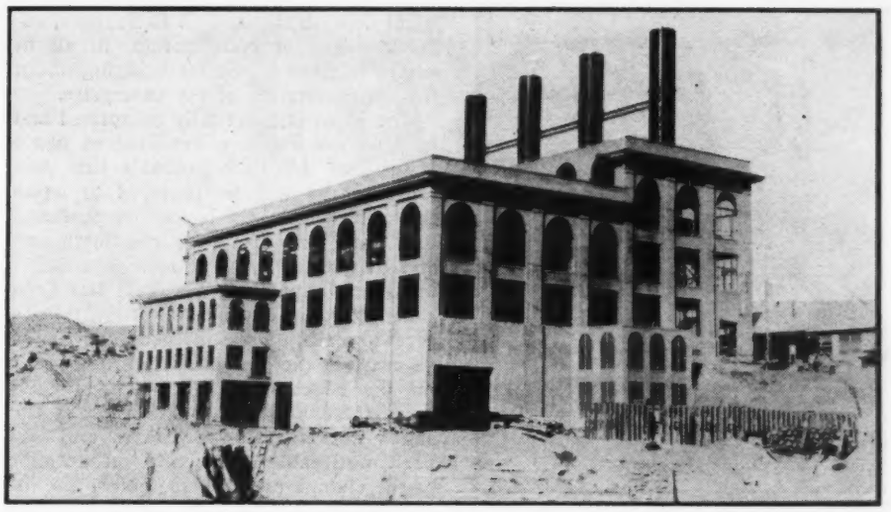
View of dam, power house under construction, and camp north of the Salt Creek field.



the gasoline plant. The generating equipment includes 2 Allis-Chalmers turbine driven generators of 12,500 K.W.H. capacity each of 1800 revolutions per minute. Other equipment includes two 2000 gallons per minute circulating pumps and auxiliary machinery. The gasoline plant, located in another part of the field, will afford a reserve of power for emergencies which might develop at the main plant.

The transmission system consists of three outgoing 33,000-volt over head lines of which two are being arranged to form a loop encircling the field and which follow the section lines. The third continues on down through the field to the Teapot dome to the south. Feeder lines will run from the transmission lines to all parts of the field. These will connect with the motor driven pumping equipment at the wells and also the field pumping system. In Salt Creek, in most instances, it is necessary to place pump stations about the sections to deliver the oil produced to the No. 1 pump station where it is pumped through the main lines to Casper. There are only a few locations where oil will run by gravity to No. 1 station so the plan provides for two field pump stations to each quarter section, each to serve 18 wells. It is estimated that it will ultimately require 256 of these stations.

The installation was designed with a view to furnishing capacity for pumping between 4000 and 4500 wells It is difficult at this time to say definitely just how many wells will be required to strip the sands since conditions vary in different portions of the field and there are other factors to be taken into consideration. The field is at present producing from two horizons, the first and



**Power plant of the Midwest Refining Co.'s electrical installation in Salt Creek**

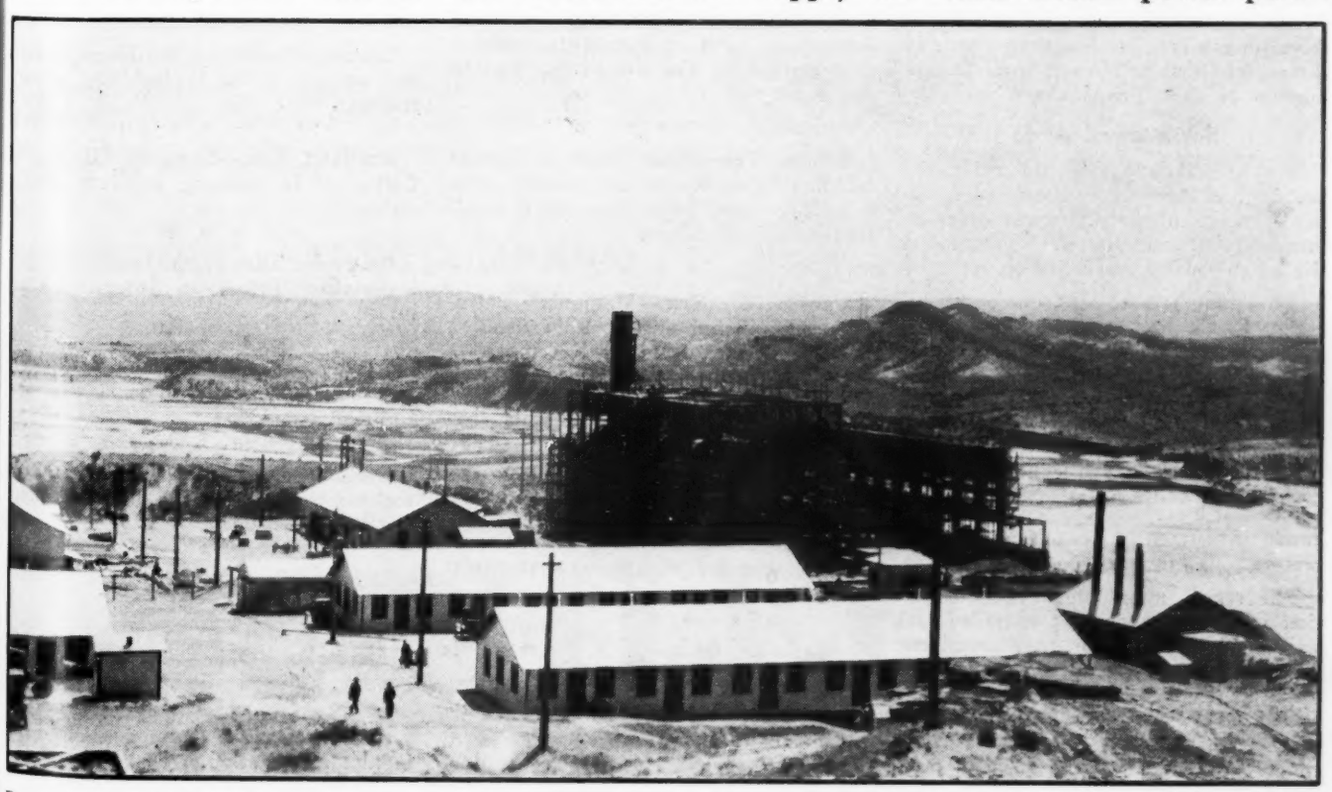
second Wall Creek sands. Approximately 1100 wells have been drilled to the second sand, which covers an area of approximately 20,000 acres, and 130 to the first sand.

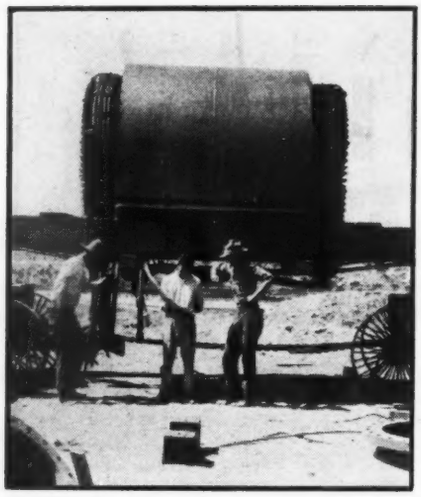
### Much Drilling to Be Done

It is estimated that between 2000 and 2500 wells will be required to strip the two sands on the basis of wells spaced one to each 8 acres, or 20 to the quarter section. However, some of the operators in the field may drill more wells to the quarter section and it is probable that ultimately 36 wells will be drilled to the quarter section as the production of the field drops and the price of crude oil advances. Where the sands are especially tight, it may even require more than 36 wells. On the basis of 36 to the quarter, it will take approximately 5600 wells to strip the two horizons. The first sand will, most likely, be held in reserve until the second sand is fully drilled and under the program in contemplation, active operations are expected to continue for at least 20 years after which the wells will gradually decline over an additional period of years.

These estimates do not include a third Wall Creek sand, the limits of which have not been determined, but which is proven in the lower part of the field and up towards the center of the structure. Neither do they include the two horizons in the Dakota which have been tested by only two wells and the area and possibilities of which are still in the speculative stage. These figures give some idea of the comprehensive nature of the program which has been worked out and which will require the expendi-

**This dam impounds water of Salt Creek and will supply the steam turbine power plant.**





**Motor for one of the big 12,500 KWH generators being moved to the field**

ture of vast sums in coming years for drilling operations. The estimates worked out by the engineers show that the use of electric power in the drilling of wells in a field the size of Salt Creek, inaugurated in its infancy, along with the saving in other operations, will many times over exceed the cost of the unit installation when compared with either steam or gas generated power.

The preliminary study of economical factors showed that electric power would result in a saving in each and every department of operation not only in drilling, but in pumping the wells, in the operation of the field pumping system, and in other departments. Electric lighting of rigs is expected to further make safe night drilling in gassy territory and have an important bearing in preventing explosions and fires and loss of life and danger from fly wheels will also be minimized. The motor driven pumps are expected to pay for themselves in considerably less than a year in the savings that will result from the reduction of shut downs alone.

### For Midwest Alone

The installation is intended for the use of the Midwest company alone in the operation of the properties under its management and does not contemplate the extension to properties operated by other companies. The cost of the installation with transmission lines and field equipment will be approximately $2,500,000 to the Midwest company. There may be additional investments but the cost will be borne by the companies whose properties are operated by the Midwest. The plant is built on the unit system so future requirements may be met, if necessary, by comparatively small investments for additional generators.

The report upon which the installation was undertaken was compiled and written by F. O. Prior, mechanical engineer, and superintendent of the electrical plant under the direction of A. W. Peake, chief engineer, who is in charge of the construction. W. R. Finney, is the superintendent of the gas and electrical department, and C. S. Sanders, superintendent of construction, to all of whom is given credit for bringing about the consummation of the enterprise.

The plant is practically completed and field connections are expected to begin about Dec. 1. It is probable that several months will be required to equip the wells which will be put on power at this time, to make proper adjustments and to get the system into operation at maximum capacity. The field has been showing rapid declines in production in recent weeks. This has been due to the decrease in the gas pressure in the wells on the edges of the field and not to any exhaustion of the saturation in the sands nor intrusion of water and has been noticeable principally on account of the change taking place before the installation was ready for operation. Approximately 300 wells are shut down awaiting the installation of motors and pumping equipment and the making of connections and when this work is finished, the production of the field is expected to gradually increase.

The company has already been fully satisfied as to the efficiency and economy of electrical operations as a result of data compiled from wells which have been so drilled and pumped. The power for these operations was obtained from generators at the gasoline plant. Approximately 150 wells are now being pumped with power from that source which also supplied power for several of the drilling operations.

Under the magic influence of electricity, Salt Creek is undergoing a change which will further transform it into one of the most efficiently and most scientifically operated oil fields in the country. And to these advantages is now being added an abundant supply of fresh water for all domestic purposes in the field. This water comes, however, from independent sources as the supply stored in the big reservoir will be used only for the operating of the steam plant.

## NEW OIL STATION CONSTRUCTION

**Savanna, Ill.**—Charles Pinckney of Fulton, Ill., purchased a corner lot at Savanna for filling station. He will also carry accessories.

* * *

**Fredericktown, Mo.**—Antone Wengler purchased property on which he will make improvements and install a filling station.

* * *

**Knoxville, Ia.**—Standard Oil Co. of Indiana is seeking permit to build a new station on the site of the present one here.

* * *

**Sinton, Tex.**—John Main of Damon building filling station and grocery store on Shadowland drive, two and one-half miles north of Sinton.

* * *

**Clarksville, Tex.**—Magnolia Petroleum Co. is building a filling station here, to be completed by December.

* * *

**Leavenworth, Kan.**—A permit has been granted to Fred Metschan, city clerk, to build a filling station here.

* * *

**Brinkley, Ark.**—R. W. Morris has purchased gasoline dispensing equipment for his garage.

* * *

**Anadarko, Okla.**—J. E. Thurston is building an up-to-date filling station.

* * *

**Wichita, Kan.**—Standard Oil Co of Indiana bought site for service station.

**St. Paul, Minn.**—Super Oil Co. has erected a filling station, according to N. Goldberg, manager.

* * *

**Eaton, O.**—Jacob Riker has purchased property on which he will build a filling station.

* * *

**Goshen, Ind.**—John Gunderman of of Benton, Ind., purchased site for filling station.

* * *

**Liberal, Mo.**—Max Davidson bought site on which he is building service station.

* * *

**Portland, Ore.**—Standard Oil Co. of California is planning to erect service station.

* * *

**Belleville, Ill.**—Permit for $1000 filling station issued to Joseph Niedermiller.

* * *

**Albany, Ala.**—Alabama Oil Co. is building two stations in Limestone and Cullinan counties.

* * *

**Dalton, Ga.**—Standard Oil Co. of Kentucky purchased lot for its first filling station here.

* * *

**Warren, O.**—Park Gasoline Service Co. to build service station.

* * *

**Anadarko, Okla.**—J. E. Thurston building filling station.

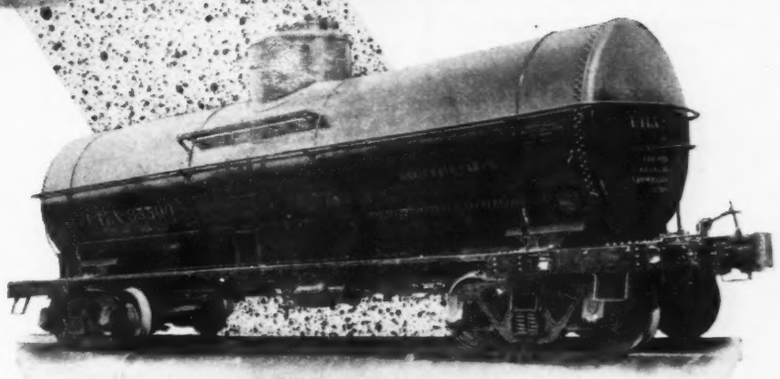
* * *

**Austin, Tex.**—A. Reed Pena will build filling station.

# Tank Cars

THE Cambria Plant of Bethlehem Steel Company at Johnstown, Pa., is equipped with every modern facility to build tank cars of every class—in any capacity—for the transportation of liquid or semi-liquid products.

Cambria Steel Tank Cars are built in conformity with the specifications in use on all American Railways.



We have a standard design of tank car in capacities of 6,000, 8,000, 10,000 and 12,500 gallons of which we can make quick deliveries.

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# BETHLEHEM
## CAMBRIA STEEL TANK CARS

# Control Of Gas Pressure Great Factor In Conservation Of Oil

**By S. F. Shaw,**
**Mining Engineer, San Antonio, Texas**

VERY little improvement has been made in the methods of controlling flowing wells since the first deep wells were sunk many years ago, although repeated suggestions have been made by petroleum engineers looking toward that end. The majority of these suggestions have come from the Bureau of Mines, but only in isolated instances has attention been paid to these warnings, either because of indifference or through lack of knowledge of any definite means that could be taken to insure greater efficiency. The Bureau of Mines has the following to say in this respect:

"Few have realized to what a degree recovery is dependent upon the efficiency in utilizing the natural gas found associated with the oil nor that it is possible to regulate, at least partly, the conditions of expulsion. Little effort has even been made to follow out the principles of utilizing gas pressure in practice, and on account of conflicting interest along property lines and of other difficulties it may often be impossible to follow out these principles to their full logical conclusions, but even with such limitations the conservation of the natural energy offers considerable promise for increased production."[1]

There are two stages to the process of delivering oil from its underground reservoir to the surface:

(1) Moving the oil through the sands to the well.

(2) Elevating the oil from the bottom of the well to the surface.

The oil is moved through the sands to the well by natural and by artificial means as follows:

Natural—
- Pressure of the gas in the oil reservoir.
- By water or hydrostatic pressure.
- By gravity.

Artificial—
- Compressed air, as in the Marietta field, Ohio.
- Water flooding, as in the Bradford, Pennsylvania, field.

The most important of all these means is the pressure of the gas absorbed in the oil or held in pockets in the sand, and it is this pressure that in nearly all cases causes oil to flow from wells.

The oil is elevated to the surface by natural and by artificial means as follows:

Natural—
- Pressure of the gas in the oil reservoir.
- Rock pressure.

Artificial—
- Plunger pumps.
- Swab.
- Bailer
- Compressed air.

[1]Bureau of Mines Bulletin 148, page 118.

Here, again, the most important means of elevating the oil from the sand is the pressure of the gas found in the oil reservoir, if it were properly applied.

### "Bean" Not Efficient

In every instance yet known of a "gusher" or flowing well, the gas has been allowed to escape without being applied in an efficient manner. Crude attempts are sometimes made to control the flow by using "chokers" or "beans," that is, by using a much reduced opening through which the oil flows, thus holding back some of the gas, but this is not an efficient method, and no attempt, so far as the writer has ever heard, has been made to determine the actual efficiencies obtained in allowing the well to flow unobstructed, or by the use of a "bean."

In other words, no accurate measurements have ever been made of the number of cubic feet of gas that was consumed in raising a given quantity of oil to a given height. In consequence, flowing wells by reason of an early exhaustion of the gas, prematurely reach a stage where artificial means must be resorted to in order to extract the oil, both because there is little gas left to propel the oil through the sands to the well and to then lift it to the surface; probably the more serious consequence of the two is the lack of gas to move the oil through the sands, since with this motive force dissipated no artificial means can as efficiently take its place in delivering the oil to the well even though adequate means can artificially be provided for removing the oil from the well itself. Comment from the Bureau of Mines is as follows:

"The pressure of the gas is the motive force that expels the oil from the sand and causes it to flow to the surface; therefore every well should be so operated that the maximum quantity of oil will be moved by the gas that is found with the oil. . . . When a fresh pool of oil is opened an excessive quantity of gas is generally produced with the oil. In a short time the flow of gas is generally reduced in volume and pressure because the gas tends to separate from the oil and escape more rapidly. The custom is to make no effort to control this excessive flow of gas, for to hold it back will temporarily retard the oil production also and the gas cannot be marketed without special treatment. Apart from considerations of immediate gain it is to the operator's advantage to hold back and conserve the gas for not only will he aid in protecting his property from water by so doing but the total amount of oil raised to the surface by flowing will be greater and it is likely that the total recovery from the property will be increased."[2]

In order to understand the reasons for the importance of conserving the gas in the reservoir it is necessary to study the work done in lifting the oil from the underground reservoir to the surface. The oil is elevated by the energy released during the expansion of the gas as it ascends through the well. The work done by a perfect gas in expanding follows the equation;

$W = P\,dV$, which when integrated becomes:

$$W = P_2V_2 \text{ Naperian log } \frac{P_1}{P_2}$$

in which expression, $P_1$ is the greatest pressure; $P_2$ is the least pressure; $V_1$ is the least volume, and $V_2$ is the greatest volume. In the case of water, the number of cubic feet of gas at atmospheric pressure (sea level) required to raise one gallon of water to a given height is as follows:

$$Q = \frac{L}{254 \log_e \frac{P_1}{P_2}}$$

where

$Q$ = the number of cubic feet of gas required.

$L$ = the number of feet through which the water is to be raised.

$P_1$ = the absolute pressure at which the gas enters the bottom of the well.

$P_2$ = the absolute pressure at which the gas escapes at the top of the well.

[2]Bureau of Mines, Technical Paper 130, page 17.

The author of the accompanying article has for many years been engaged in mining, principally metal mining but in the past two years has been devoting considerable time to the oil industry. He believes that adaptation of some methods which are common practice in mining will be found to apply in producing oil. Mr. Shaw was formerly the superintendent of the American Smelting & Refining Co. at Charcas, S. L. P., Mexico, where he had considerable experience in the handling of fluids, partly described in his paper on "Unwatering the Tiro General Mine by Air-lift," published in February, 1920, by the American Institute of Mining and Metallurgical Engineers.—Editor.

If there were no losses due to friction, slippage, etc., the number of cubic feet of gas required to raise one barrel of water to a given height would be as given in the following table:

**Cubic Feet of Free Gas, Seal Level Basis, at Given Pressure, Theoretically Required to Raise One Barrel of Water of 42 Gallons to a Given Height**

| Feet Lift | Pounds per Square Inch Pressure at Inlet of Flow Pipe | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 |
| 100 | 8.064 | 6.157 | 5.397 | 4.952 | 4.649 | 4.431 | 4.259 | 4.057 |
| 200 | 16.128 | 12.314 | 10.794 | 9.904 | 9.298 | 8.862 | 8.518 | 8.114 |
| 300 | 24.192 | 18.471 | 16.191 | 14.856 | 13.947 | 13.293 | 12.777 | 12.171 |
| 400 | 32.256 | 24.628 | 21.588 | 19.808 | 18.596 | 17.724 | 17.036 | 16.228 |
| 500 | 40.320 | 30.785 | 26.985 | 24.760 | 20.245 | 22.150 | 21.295 | 20.285 |
| 600 | 48.384 | 36.942 | 32.382 | 29.712 | 27.894 | 26.586 | 25.554 | 24.342 |
| 700 | 56.448 | 43.099 | 37.779 | 34.664 | 32.543 | 31.017 | 29.813 | 28.399 |
| 800 | 64.512 | 49.256 | 40.176 | 39.616 | 37.192 | 35.448 | 34.072 | 32.456 |
| 900 | 72.576 | 55.413 | 48.573 | 44.568 | 41.841 | 39.879 | 38.331 | 36.513 |
| 1000 | 80.640 | 61.570 | 53.970 | 49.520 | 46.490 | 44.310 | 42.590 | 40.570 |
| 1100 | 88.704 | 67.727 | 59.367 | 54.472 | 51.139 | 48.741 | 46.849 | 44.627 |
| 1200 | 90.768 | 73.874 | 64.764 | 59.424 | 55.788 | 53.172 | 51.108 | 48.684 |
| 1300 | 104.832 | 80.041 | 70.161 | 64.376 | 60.437 | 57.603 | 55.367 | 52.741 |
| 1400 | 112.896 | 86.198 | 75.558 | 69.328 | 65.086 | 62.034 | 59.626 | 56.798 |
| 1500 | 120.060 | 92.355 | 80.955 | 74.280 | 69.735 | 66.405 | 63.885 | 60.855 |
| 1600 | 129.024 | 98.512 | 86.352 | 79.232 | 74.384 | 70.896 | 68.144 | 64.912 |
| 1700 | 137.088 | 104.669 | 91.749 | 84.184 | 79.033 | 75.327 | 72.403 | 68.969 |
| 1800 | 145.152 | 110.826 | 97.146 | 89.136 | 83.682 | 79.758 | 76.662 | 73.026 |
| 1900 | 153.216 | 116.983 | 102.543 | 94.088 | 88.331 | 84.189 | 80.921 | 77.083 |
| 2000 | 161.280 | 123.140 | 107.940 | 99.040 | 92.980 | 88.620 | 85.180 | 81.140 |

### Low Pumping Efficiency

It must be remembered that the above figures are theoretical; also in applying these figures to oil, the proper specific gravity must be taken into account. The efficiency of a given installation would be the relation between the figures actually obtained as compared with the above figures. Pumping efficiencies at the present time probably range from 5 per cent to 25 per cent, depending upon the pressure at the bottom of the well and the height to which the oil is raised. In regard to efficiency in production, the Bureau of Mines has the following to say:

"There is a definite and limited amount of natural energy associated with the oil in each field, and largely upon how effectively that energy is utilized to expel the oil from the sand will depend what proportion of the oil in the sand may be recovered, for evidently the exhaustion of a well is caused more by the exhaustion of the natural expulsive force than by the depletion of the supply of oil. If the natural gas associated with the oil is permitted to escape unrestricted and without performing the greatest amount of work possible, the producer is lessening the quantity of oil that may be obtained by natural means. Every foot of gas produced wastefully may be considered to represent a quantity of oil that should have been brought to the surface by using the gas effectively. It appears logical to gage the efficiency of production methods by the relative volumes of gas produced with the oil at the same well. If, for example, a change in method reduced the volume of gas produced with each barrel of oil from 3000 to 1000 cubic feet, much more oil could be recovered eventually, even though the actual daily production of oil were reduced a little temporarily."[3]

Increased efficiency is obtained by controlling the rate at which the gas is allowed to escape from the well; only as much should be allowed to escape as will efficiently raise the quantity of oil that is delivered to the bottom of the well. The gas so conserved serves to propel a corresponding quantity of oil through the sands to the well and to raise the oil through the well to the surface. In instances where several large flowing wells, as in the Tonkawa field, Oklahoma, are allowed to flow uncontrolled, the decline will necessarily be rapid, even though in the case mentioned it may not be as rapid as in some other fields. The oil that will be left in the ground in such instances must be enormous when viewed in the light of the statement made by the Bureau of Mines:

"Estimates of unrecovered oil range from 24 to 90 per cent. Only 10 to 20 per cent of the oil is commonly extracted. This is much lower than the usual estimate of approximately 50 per cent."[4]

In such instances the retention of the gas in the reservoir should result in an increase of possible 100 per cent or more additional production throughout the life of the field than when allowed to flow uncontrolled as in present day practice.

### Control by Flow Lines

Control of the gas can be effected by means of accurately designed flow lines, and these same flow lines are adaptable to the use of compressed gas for elevating the fluid after the well has ceased to flow. The writer proved that there is a very great difference between a flow line such as is used in present-day practice in oil wells and a flow line properly designed when he had occasion to unwater a large mine where large quantities of fluid were handled such as are unusual in oil well practice.[5] During this work the study of the designs of flow lines was started and has since been carefully carried to a completed stage.

There comes a time in the history of every oil well when it ceases to flow, whether or not the gas has been properly conserved. When this point is reached it is necessary to employ artificial means for handling the fluid, and up to the present time the plunger pump with all its troubles and limitations has been the method used to the greatest extent, and in a great many cases it is probably the most economical method that could be employed.

However, where the production amounts to 50 or more barrels of oil per day, it is a question as to whether a proper design of compressed air installation would not be found more effective. Where production reaches 1000 barrels or more per day, whether it be pure oil or fluid containing a large amount of water, it is probable that a compressed air installation would be more economical; and when the production of fluid, whether oil or water reaches 2000 barrels per day, the limit of the plunger pump is reached and there is no other effective means of handling this amount of fluid except by means of compressed air. The following note is from the Transactions of the American Institute of Mining Engineers, Bulletin 1326-P, in describing conditions in the Smackover field:

"When the wells stopped flowing, they were either swabbed or compressed air was applied to them. The swabbing is less desirable than the air, as it has a tendency to suck in salt water; also the amount of oil produced in a day was not nearly so great as that of a well subjected to air. A well that has an initial production of above 2000 barrels usually produced about 1500 barrels of oil per day with swabbing and as much as 10,000 barrels of oil per day when subjected to air."

The writer has never seen, or heard of, a really efficiently designed compressed-air installation in an oil well. With inefficient designs the cost of production is necessarily higher, the amount of air required is greater, and the quantity of fluid that can be raised is much decreased. The percentage of efficiency calculated as the result of present-day compressed air installations is so low as to be startling, in fact, very few operators have the remotest idea of the percentage of efficiency they are obtaining.

In summing up the most efficient methods of handling the production of oil, the following observations are in order:

1. Accurately designed flow lines should be installed in all flowing wells to conserve the gas pressure, thereby extending the flowing period by a greatly increased period of time.
2. When the flow ceases, if proper submergence can be obtained, properly designed compressed air equipment should be installed.
3. When the submergence becomes very much reduced, and the production falls to a very low point, the most efficient plunger pump equipment should be installed.

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ROANOKE, VA., Nov. 28.—Stoke Battery & Armature Works, at present carload buyers of gasoline, are installing bulk storage for kerosene. The company will retail oil for domestic heating from its two filling stations, according to H. F. Stoke, proprietor.

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LEESPORT, PA., Nov. 28.—The Apex Gas & Oil Co. has recently been organized here to market petroleum products, according to R. L. Graeff, proprietor of Graeff's Leesport Garage.

[3]Bureau of Mines Bulletin No. 148, page 117.
[4]Bureau of Mines Bulletin 194, Page 13.
[5]T.A.I.M.E. Vol. LXIII, page 421.

# Shipping Board Again Considers Penalizing Mid-Continent Refiners

By Special Correspondent

WASHINGTON, Dec. 1.—Application of section 28 of the merchant marine law, is again under consideration by the shipping board, in the sense that it is making inquiries of interested shippers, particularly shippers of oil from the Mid-Continent field, as to the change, if any, in the situation since the withdrawal by it, last spring, of its certificate informing the Interstate Commerce Commission that there were enough American bottoms to carry American goods from American ports and bring foreign goods to American ports.

Under that certificate the Interstate Commerce Commission ordered the railroads to revise their freight rate tariffs so that import and export rates, generally lower than domestic rates, would apply only to goods imported or intended for export, in ships of American registry.

Such a cry of rage and amazement went up from American shippers that the shipping board had to withdraw its certificate, thereby tacitly admitting it had made a misleading statement. The certificate, however, was not withdrawn until after the shippers had appealed to congress and 10 days of hearing was had on the question whether there really were or were not enough ships of American registry. Shippers, and particularly shippers of oil, flatly contradicted the certificate of the shipping board.

The board is inquiring of the shippers who objected, not with a view to immediate application of the section but with a view to determining what kind of a questionnaire it should send out to the industries that claimed, in the spring of 1924, that they would be adversely affected if the section was put into operation.

Fayette B. Dow, Washington counsel for the National Petroleum Association and Western Petroleum Refiners Association, who made the fight for the shippers of oil when the subject was up eight months ago, has had a conference with Commissioner Plummer of the shipping board and John Nicholson, chief lawyer for the board.

So far as ships for carrying oil in bulk are concerned, Mr. Dow told the representatives of the board there had been no change. In other words, he told them that the shipping board is still without a single "clean" tanker to be used in carrying refined products across the ocean in bulk; that all the clean tankers were owned by oil companies which, as a rule, desired and did use their ships for carrying their own products, although at times such ships had been placed at the disposal of competitors in the oil trade, for limited service.

In behalf of the Western Petroleum Refiners Association the shipping board has been told that, according to a careful survey, the refiners in that part of the country, in 1923, exported between 600,000, 4,200,000 and 4,900,000 barrels of refined products, chiefly through the Gulf ports and that every pound moved on export rail rates. The export rates, it was pointed out, were from 1 to 2 cents lower per gallon than the domestic rates.

That would mean that if section 28 were put into effect and there were no American tanker to carry refined oil, the Mid-Continent refiner would have to shrink his profits from 1 to 2 cents per gallon to enable him to compete with refiners on the coast who might have had to pay a rail freight rate on some of the crude used at the seacoast refinery.

Refined oils could be sent from the ports, although the crude had moved into the port refineries on the domestic rates, without paying any penalty for going in a foreign flag ship. Absorption by the Mid-Continent refiner, under such a condition would amount to $2000 on a cargo of 8000 tons or 56,000 barrels. It was further pointed out that the interior refiners cannot compete with the coast refiners and that therefore the domestic rates from the Mid-Continent field to Gulf ports, for instance are mere "paper" rates on which no traffic moves.

In addition to that rate disadvantage, it was pointed out the application of section 28 would place the Mid-Continent refiners in an additional disadvantage in that the coast refiners could sell for export at their plants via either an American or a foreign ship, without being subjected to any penalty at all because the law does not require the imposition of export rates on the crude used in the making of refined products. Therefore even if a coast refiner had to depend upon tank cars to bring his crude to his plant at the port, he would be able to export without paying any penalty for the upbuilding of a merchant marine under the stars and stripes.

It was pointed out to the board men that, when in 1920, the board certified that there were not enough American ships to carry American commerce, it had 95 tankers. Now it has 48, not one of which is clean and fit to carry refined products. It was further pointed out, in behalf of the Mid-Continent refiners that even if the board put tankers on the market to carry refined products the enforcement of section 28 would hurt the interior refiners because they would not be able to sell to foreign buyers who insisted upon coming to the ports and carrying away the oil they had bought, while the refiners on the coast would be able, having low freight rates to pay, to take all the business that was offered.

Mr. Dow pointed out that the boards had sold its tankers to the seaboard refiners and he said that that was proper and he had no fault to find with a policy looking to the placing of the shipping business into private hands but he reinforced his point that the application of section 28 would put the interior refiners out of the export market and turn it over to the refiners at the ports.

As an additional reason for leaving the situation as it now is, Mr. Dow said that in 1923 and thus far in 1924 most of the members of the Western Petroleum Refiners Association have operated at a loss. To eliminate them from the export business, he said, would bring nothing less than disaster.

## Calgary Plant Second Largest In Canada

OTTAWA, CANADA, Nov. 29.—The Calgary refinery of Imperial Oil Limited, is now the second largest in Canada according to a statement made by C. O. Stillman president of the company. "We have been handling in the Calgary plant," said Mr. Stillman, "an average of just a little less than 6000 barrels a day for several months past and during October, which is the rush season in the oil business, we handled around 7000 barrels a day."

The Sarnia refinery which handles 10,000 barrels a day regularly is the only one surpassing that at Calgary. The payroll at the latter point is running half a million dollars a year, with over 300 regular employees and quite a number of casuals.

Mr. Stillman said the Calgary plant was using a large amount of Sunburst crude.

## Constantine Properties To Go Under Hammer

TULSA, Nov. 29.—Properties and equipment as well as all other assets of the Constantine Refining Co. will be offered for sale at public auction at the Tulsa court house on Dec. 8, it was announced this week by William Owen, special master appointed by the U. S. district court.

Properties of the bankrupt company include a refinery at Tulsa with a capacity of 4000 barrels per day and one at Devol, Okla., of 7500 barrels capacity, a bulk station and system of filling stations in Tulsa, 1086 tank cars, producing properties and miscellaneous securities.

The sale is the result of foreclosure by bondholders represented by the Spitzer-Rorick Trust & Savings bank.

# Bucking Industry's Biggest Price War And Making It Pay

**By Ward K. Halbert**

STAFF REPRESENTATIVE

KEOKUK, Nov. 28

KEEPING the service station price of gasoline up to a point where the jobber could realize a fair profit on his effort, hazards and investment, was a hard job during the summer of 1924. A great many oil men were unable to do it, especially in communities where governmental opposition was keenest or where price wars raged most furiously.

Nevertheless, there were some who succeeded in the face of the most provoking sort of competition.

C. H. Armould, head of the Armoulds Oil Co., Hamilton, Ill., adopted special measures which enabled him to keep his business paying all summer, in spite of the fact that he was surrounded with price cuts so severe that Standard Oil Co. stations in his neighborhood were obliged to meet the competition. The Armould stations met the competition, too, but by a keen strategic measure the company was saved from the catastrophe that befell so many Independents, who lost both money and patronage.

Before going any further into the story it must be stated that Mr. Armould passes most of the credit for this job along to his wife. Mrs. Armould has always been active with him in the business, covering a period of 20 odd years. She is thoroughly versed in petroleum marketing, and in this case her understanding of the Armoulds Oil Co., trade saved the season. Her idea was briefly this:

> "Do not ruin the reputation of company's good products by placing them on a par with cut-price stuff. We should not name a price ridiculously high but must sell at a figure that represents a profit and maintains the public's respect for good merchandise. If our own trade demands something cheap we will provide it for them. But if we must meet competition in price we can meet it in quality also."

The working of this theory resulted in Armoulds' adopting a new product and calling it "Red Feather". It was an ordinarily good 56-58 gasoline, and it was pumped out to all customers who demanded material as cheap as the competition would sell it. Red Feather had no fixed cost relation to any of the other products sold at the company's station. Its price was determined by competitors altogether. The lowest price posted by the angriest garage man in town was the price of Red Feather.

In order to rightly appreciate the novelty of Red Feather, it must be remembered that Armould handled two grades of gasoline already. "Blu-Ribbon" is the competitive product. "Hi-Life" is the premium grade gasoline and sells for 3 cents a gallon more than Blu-Ribbon under ordinary circumstances. There are as many operating advantages in a small company over a big one as there are other advantages of a big company over a little one. And one of the advantages of the small company is that it can think and act quickly.

Now the Armoulds Oil Co. is not so little. It has its territorial limitations but it is a recognized factor in the market in all of that rich agricultural region centering around the Mississippi river bridge connecting Hamilton, Ill., and Keokuk, Ia. Armould does business in a good portion of three states, Illinois, Iowa and Missouri. But the business is not so big that it has to wait on action until it is too late for emergencies. The price war broke out early in Fort Madison, Ia., about 30 miles north of Keokuk, and when it happened the Fort Madison station was prepared with plans.

The Armoulds service station at Front and Spruce streets, Fort Madison, is an excellent one. It is a rectangular station of two rooms with a passage between, and the superstructure extends far out over the walls making a rectangular station of the umbrella type. Near each outer corner of the building is a Fleckenstein bracket gasoline dispenser. With the dispensers thus grouped, two station attendants are able to serve the maximum number of customers by hurrying back and forth through the hall between the rooms, catching the trade on both sides of the station.

### Not Enough Dispensers

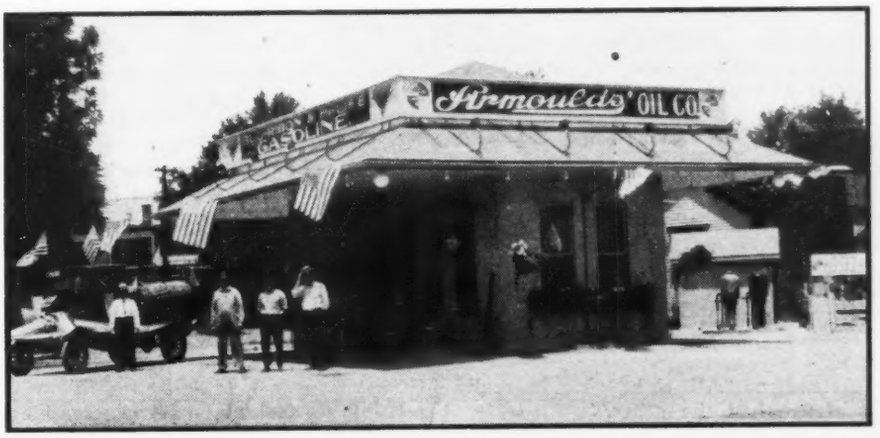
A little while before the price war came, the management had recognized the need of more dispensers. To meet that need it was decided to erect a fifth pump down near the street corner in front of the station. The pump was up when the price war started and it came in for its first use as an "instrument of defense".

The company had no marginal contracts. All material had been bought on the spot market all year and the margin had grown wide as the f.o.b. refinery price slid down in the spring. The Armould company, like all Independents buying in the spot market, was ready for a price decline, so when the first local cuts came they were welcomed and met gladly. The outgrowth of these local cuts does not have to be explained, for the whole industry knows what happened. Price

### This Red Feather Story Ought to Tickle You

WHEN somebody shakes a bloody shirt it is no occasion for showing a white feather—try a red one.

It was the judicious use of Red Feather that made C. H. Armould the most conspicuous general in the 1924 Price War in S. O. Indiana territory. He got good prices for most of his material, he lost money on nothing, and he held every bit of his patronage. Read the story. It tells how.—Editor.




This is an early morning picture of the Armoulds Oil Co. service station in Fort Madison, Ia., where the cut prices of gasoline were met first with only one pump. The practice was continued later in other towns.

wars wrecked the retail business in the middle west and much gasoline sold below cost. Armoulds' price went down to a level which he considered right, and there it stopped going down.

With competitors selling only a fraction of a cent under him, Armould was able to merchandise his Blu-Ribbon without any argument at a price he considered fair. But when competition got down 2 cents, Blu-Ribbon was harder to sell. Customers began to complain. "So-and-so is selling gas for 14½ cents" was the cry of the public, to which there was no answer, until Armoulds Oil Co., came forth with a 14½-cent product.

The "infant" came without a name. At first it was thought hardly worth while to name it at all, because it was destined to be short-lived. They simply put a sign up over the fifth pump, branding the product "Competition Gas" but there were objections offered to it and a name was evolved. Later the pump sign carried the words "Red Feather Gas 14½ cents."

### The Selling Plan

All the pump boys and station attendants understood the plans and they were ready to sell the idea as soon as the third product was placed on the market. During the price war the prices were usually on an even spread; Red Feather 14½ cents, Blu-Ribbon 16½ cents and Hi-Life 18½ cents. And here is how the pump boys put it across to the trade:

Enter customer, stopping in front of the pump where he has been getting his gasoline for years.

Customer: "What you sellin' gas for this morning?"

Attendant: "That Blu-Ribbon is worth 16½ cents. Hi-Life at the other hose there is worth 18½ cents."

Customer: "Holy Mackeral, Caesar's Ghost! I can get gas anywhere in town for 15 cents and some places for 14½, and you got the gall to charge me 16½ cents for the stuff?"

Attendant: "Oh! No sir. If you want that cheap gas everybody is selling, we can fix you up. We can't come out on this Blu-Ribbon for any less than 16½ cents but if you will just pull up to this pump in front we will give you some Red Feather for 14½ cents."

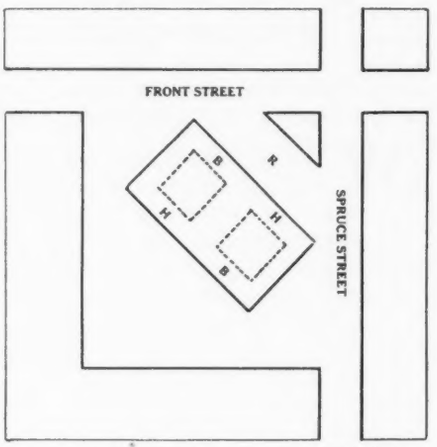
Customer: "Well now just what is this slop you are trying to sell me for 14½ cents? I want something that will make the car run."

Attendant: "You can be sure it is every bit as good as anything you can buy anywhere for the same money. Of course we don't stand behind it like we do our regular gasolines but it will run your car all right."

Customer: "All right, never mind. I will just take this here Blu-Ribbon that I've been getting. It has always been good."

Attendant: "All right sir. It really is better than the other."

In the course of three or four days every customer who had the least idea of getting Blu-Ribbon at a cut rate had been thus impressed with the fact that it could not be had for the price of cheap motor fuels in town. It was talked about among gasoline users and in a short time it had come to the ears of competitors. Some of them admired Mr. Armould for his fortitude but nevertheless felt the need of defending their




H indicates the position of two Hi-Life dispensers, B shows the position of two Blu-Ribon dispensers. R marks the location of the Red Feather pump at Armoulds Oil Co.'s Fort Madison station

own merchandise. This was true especially of jobbers who really had not cheapened their product and wanted their trade to know it.

Armoulds customers began to bring the subject up again when they came for gasoline. They would say:

"John Doe, down the street here, tells me that his gas is just as good as it always was. He savs he has cut the price on the best stuff he sells."

"That's probably true" the attendant would reply. "But if it is just as good as it always has been, he is either throwing his money away now, or else he used to charge too much for it."

In this way, all of Armoulds' customers who wanted gasoline just as cheap as the town afforded could get it without looking farther than their usual place of trading. Of course some of them did patronize the Red Feather pump, but they were satisfied with what they got and their patronage was not lost. Those who were not so sure of the merit of cheap material never quit buying Blu-Ribbon. They might have abandoned it if they had not been able to see the cheap pump standing there in easy reach. They could get it if they wanted it, so they did not want it. The users of Hi-Life were pleased with the fact that a slight reduction was made in its price and certainly they were not in the market for Red Feather.

### Figures Tell Story

Without going into detail about the daily over-turn at the Fort Madison station, the summing up of figures at the close of the price war showed the three grades to hold about the following relation to the total of business done:

2 pumps Hi-Life .....25 per cent.
2 pumps Blu-Ribbon ..50 per cent.
1 pump Red Feather ..25 per cent.

Red Feather was a popular top around Fort Madison, which is divisi point and railroad shop town of t Sante Fe. The railroad men had entere into the price war with sportsma spirit at first, shopping around for t cheapest pump. But they were qui to recognize it when they began to g inferior material. And there is no que tion that a great deal of inferior materi was sold in that section as well as els where in Standard of Indiana territor during the price wars.

One rainy night two husky railroade halted at Armoulds' station in grav trouble. They asked the attendant i he thought they had gotten water i their gasoline tank. The man said h did not think it was likely, but tol them if they were having trouble th only way to find out would be to drai the gasoline tank and re-fill. They too his advise and the service station ma caught the drainings in a clean can When the customers had gone he took a sample of their tank drainings before disposing of it. The next day he tested the sample and found it to have a gravity of 52½. He still does not know where the so-called gasoline was sold.

### "Grasshopper" Gas

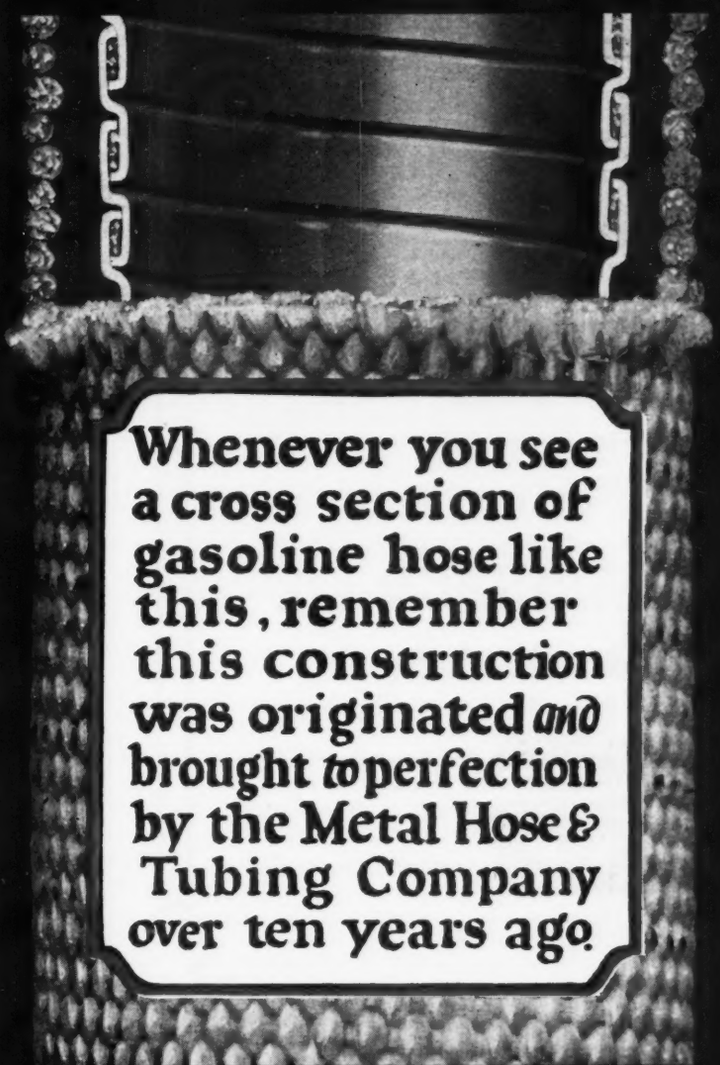
The experiment did not prove anything important, for every motorist knows that ignition troubles will result from inferior fuel. But one thing was learned. He knew why the railroad men called the various cut-rate gasolines in town "grasshopper gas". The buck-jumping motion of a Ford operated on near-kerosene has suggested the movements of a grasshopper, and the name stuck.

When Armould decided to start selling Red Feather it was suggested by some of the office men that the product be advertised as Grasshopper gasoline, but the name was rejected because of the bad inference the railroad men already had given the word. Mr. Armould wanted to impress his trade that 14½-cent gasoline was not as good as his regular Blu-Ribbon, but he did not want to make them think Armoulds Oil Co. would sell a real worthless product at its stations.

The price war spread quickly from Iowa into Illinois. And wherever the war went in Armould's territory he met the condition with Red Feather. He relates pleasantly that it was a success at every point except one—Quincy, Ill. There the company has only one station. It is on the outskirts of town and caters to rural trade exclusively. The farmers were everywhere disposed to save every cent they could this year and when Red Feather was offered for sale there at a cheaper price it immediately became the most popular product.

Fortunately the price war reached Quincy late in the summer. The loss there was inconsiderable with the gain elsewhere. The general tank wagon decline and leveling of prices on Sept. 12, ended the price war and Red Feather is not being sold now.

# TRIPLEX D



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## Traffic Work Centralized In Washington

By Special Correspondence

WASHINGTON, Nov.28.—As a result of the last Atlantic City meeting of the National Petroleum Association there has been a transfer and a reorganization. All the traffic work, consisting largely of questions arising before the Interstate Commerce Commission, the United States Shipping Board and before both traffic and operating organizations of the railroads members of the American Railway Association, will be done by or through the Washington office of which Fayette B. Dow is in charge as Washington counsel.

Immediate charge of the traffic work will rest in the hands of Willis Crane, associate of Mr. Dow, who has been designated as commerce attorney. Mr. Crane, like Mr. Dow, had his training in traffic matters in the Interstate Commerce Commission before he resigned to practice before that body. The experience of Messrs. Dow and Crane has not been confined to oil traffic matters but ever since the establishment of Washington offices by the National Petroleum Association and the Western Petroleum Refiners Association they have specialized, in oil matters in the regular line of their work, which, of course, covers many phases of Washington work.

C. D. Chamberlin and F. W. Boltz, who for years have been identified with the traffic work of the National Petroleum Association, are retained as counsel and advisory traffic experts but the handling of the work, much of which ultimately has to be brought to Washington, will be as before indicated. Mr. Crane will have the help of Edwin Booker, another attorney, whose technical knowledge extends to the actual experience acquired by him while employed by the Erie and other railroads. That arrangement is temporary pending the selection of a traffic man who can act as witness for the presentation of facts tending to support allegations made in behalf of individual members of the association or the industry as a whole.

Inasmuch as the Western Petroleum Refiners Association joins in the maintenance of the Washington office, such of its work as the association desires done here will also be conducted through the organization of which Mr. Dow is the head.

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OTTAWA, CANADA, Nov. 28.—Dr. R. T. Elworthy, chemist of the mines branch, Ottawa, and his assistant, R. Offord, have been taking samples of the gas at No. 1 well of The Maple Leaf Co. at Irma Alberta, with the object of making an analysis to determine the contents of the gas. The volume has increased to some two and a half million feet per day, with a rock pressure of 720 pounds.

# Association's Divisions Headed By Two New Presidents And One Re-elected

THE Mid-Continent Oil & Gas Association has functioned for several years and its attack and handling of a number of problems common to the producing fraternity have established its position among trade organizations which are always assured respectful hearing.

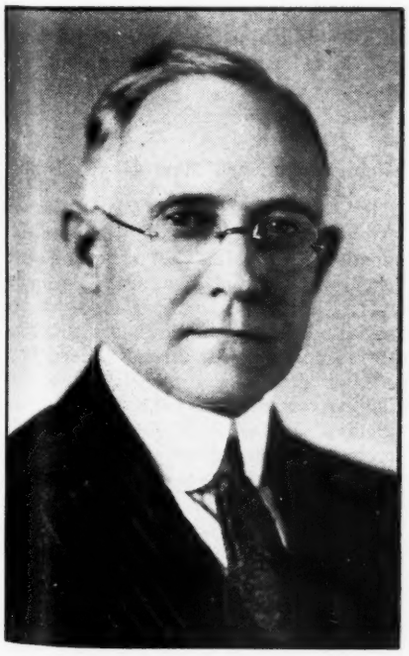
The work of the association is now directed by the general organization, of which W. N. Davis, of Bartlesville, Okla., is the president, and the closer contact with members in the three broad geographical divisions of the Mid-Continent-Southwestern oil fields is effected through three divisions of the association. These are the Kansas-Oklahoma division, the Texas division and the Louisiana-Arkansas division. In recent elections, two new division presidents were chosen and the third was re-elected.

### Collett Serving Third Term

J. D. Collett of Fort Worth was re-elected head of the Texas division and is now serving his third term in that capacity. He is also a director of the American Petroleum Institute and was recently made a director of the United States Chamber of Commerce. Of the last named organization, he is the first Independent oil man to serve as director.

Mr. Collett's first taste of the oil business came with the Spindletop boom, which brought a respectable percentage of the present oil men of the country into the ranks. At that stage of the game, Mr. Collett played it in a small way and came off with honors fairly even. He did not devote himself exclusively to oil, however, until about eight years ago when he disposed of his interest in a large insurance business in Fort Worth, where he has lived for 34 years.

In the past eight years he has been active as an individual operator in a number of the north and central west Texas fields and was in the thick of the Ranger development of 1917-20. He is a native of Austin, coming to Fort Worth in 1890 when the latter town was small and when the Belcher Mortgage Co., of Austin, of which he was secretary, began to finance undertakings in the Fort Worth territory.



Wallace C. Franklin

George O. Baird

Mr. Collett's election to the directorate of the United States Chamber of Commerce is quite a distinction and came as a result of a suggestion that the oil industry should have additional representation and that the next representative should be a typical Independent operator. Prior to this, A. C. Bedford chairman of the board of directors of the Standard Oil Co. of New Jersey, was the sole representative of the oil industry on the chamber's directorate.

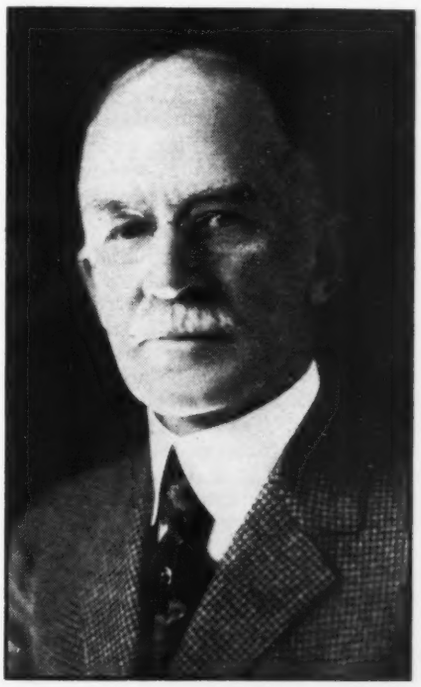
Mr. Collett's name was presented to the chamber by Frank Kell, Texas industrial and railroad magnate, and by John W. Shartel, Oklahoma City traction man.

George O. Baird, of Shreveport, newly elected president of Louisiana-Arkansas division of the Mid-Continent Oil & Gas Association, is one of the out-standing independent operators of the Louisiana-Arkansas territory. He came to Shreveport in 1910 on a special mission in connection with the proposed construction of a gas line from the Caddo District to St. Louis.

While in Shreveport on that occasion he became associated with the Standard Oil Co. of Louisiana, then a new entrant into this territory. He remained with that organization, as head of the land department until 1917, when he struck out for himself. He achieved signal success in the Homer field, and developed one of the most prolific tracts in that district.

In 1921 he was appointed federal receiver, having charge, in association with P. J. Hurley, general receiver, of the Louisiana properties of the Gilliland Oil Co., then in bad financial condition and facing the opening of a keenly competitive drilling campaign in the Haynesville field, where it owned extensive acreage. It is interesting to recall that, in making this appointment, Federal Judge Jack canvassed a number of prominent attorneys and several prominent executives of local oil companies asking that they nominate a man capable of administering the tangled affairs of the company and that, without exception, Mr. Baird's name appeared on every list of nominations submitted.

The Gilliland company at that time had little cash and less credit with which to develop its newly-proven properties at Haynesville and protect them from drainage from offset competition. Mr. Baird took charge as receiver when the company's properties were thus at lowest ebb, and piloted the organization through the Haynesville boom, developing a flush production that measured up well in comparison with that of competitive companies not hampered by financial difficulties. The ultimate result was



J. D. Collett

that, in less than two years of receivership, the company was placed in solvent condition and returned to the control of its stockholders, its valuable properties still intact.

George O. Baird is considered one of Shreveport's most valuable citizens, as aside from this extensive business interests, a large portion of his time, talents and resources are devoted to the interests of the community. In the knowledge of the writer alone, he is at present giving freely of his time in behalf of the Federated Charities, Centenary College a local denominational school, and the Pines, a tubercular sanitarium located in the outskirts of Shreveport. As an oil operator, he has interests in Kansas, Indiana, Texas, Arkansas and Louisiana. He is a director of the Oil Fields Gas Co., a comparatively new company which owns considerable proven acreage on the Cotton Valley structure, where a developing campaign is rapidly gaining headway. He is Vice-President of Baird Bros. Shoe Co., of Shreveport; and is a director of the American National Bank, of this city. He is a thirty-second degree Mason, a Shriner, and an active member of the El Karubah Shrine Band. He also is a member of the Shreveport Country Club and of the City Club.

Marion, Kentucky, has the distinction of having been the birthplace of at least two well known men; one was Ollie James, United States senator, and the other is Wallace C. Franklin, vice-president, counsel, and chairman of the executive committee of the Tidal Oil Co., who was recently elected president of the Oklahoma-Kansas division of the Mid-Continent Oil & Gas Association.

Mr. Franklin has been with the Tidal Oil Co. seven years, and that figure covers also the length of his residence in Tulsa. During that time he has seen the Tidal grow and expand exceedingly and he has advanced along with it, but has found time also to work hard for the success and efficiency of the Mid-Continent Oil & Gas Association. He has been a member of the executive committee for some time, and for two years past has been first vice-president of the Oklahoma-Kansas division.

Before coming to Tulsa, Mr. Franklin was practicing law in Muskogee, and to show his loyalty for the old home town, he has surrounded himself with Muskogee lawyers in the Tidal's legal department, four of them now being retained. He came to Muskogee back in 1905, and was then employed in the office of Tams Bixby, when the latter was chairman of the Dawes Commission. Prior to that, he had been for some time in the Interior department in Washington. With those two positions, he acquired much knowledge and experience with Indian land law, in which he has specialized ever since.

Upon coming out to Muskogee in 1905, he considered that his prospects were good enough for him to get married, and he did so forthwith. He has three children, two boys and a girl, the oldest of whom is 18 years of age. Mr. Franklin received his education at Southern Normal College, Bowling Green, Ky., and later studied law at George Washington university, taking a night course while he was employed in the civil service.

## Industrial Notes

**Bennett Injector Co., Muskegon, Mich.,** has completed its plant at Muskegon, covering 35,000 feet of floor space all on one floor, with sky lights affording the best possible lighting facilities. Offices are located at the front of the building, with warehouses near the front adjacent to the main manufacturing building. The factory is so arranged that each model starts from the front and works toward the rear so that it arrives at the rear completed and ready for painting, crating and loading.

* * *

**The Gibb Instrument Co., Bay City, Mich.,** is now the Gibb Welding Machines Co., it having changed its name because instruments are no longer being manufactured. The company is now engaging exclusively in the manufacture of electric welding and heating machines. There has been no change in the organization, according to H. L. Clark, vice-president.

* * *

**Holt Manufacturing Co., Peoria, Ill.,** manufacturer of Caterpillar tractors, has published a booklet entitled "Keeping Winter Roads Open" which describes the use of Caterpillar trucks as snow plows and includes illustrations of the various uses to which this truck can be put during the blizzard of winter.

* * *

**The Holt Mfg. Co., Peoria, Ill.,** has appointed Haverstick & Co., Inc., Rochester, N. Y. as its distributor for Caterpillar tractors in western New York, and the Weber Implement & Automobile Co., Kansas City, Mo., as its distributor in western Missouri and all of Kansas.

* * *

**Crouse-Hinds Co., Syracuse, N. Y.,** recently published a bulletin with illustrations covering its types of safety switch condulets with Crouse-Hinds tumbler switches, and bulletin No. 2064 devoted to its line of Imperial floodlight projectors.

* * *

**Sheet Steel Products Co., Michigan City, Ind.,** has off the press a leaflet devoted to its Durabilt cabs designed for motor trucks, which are recommended for comfortable and easy driving in all sorts of weather.

## Phillips Buys Two Gasoline Plants

TULSA, Nov. 28.—Phillips Petroleum Co. has purchased two important gasoline plants and is constructing another which will bring the production of natural gasoline by that company up to roundly 300,000 gallons per day. This will be the largest production by any one company in the Mid-Continent field. Negotiations have been completed and Phillips has taken over the large plant of the Landreth Gasoline Co. in the Ibex pool in Shackelford County, Texas. This plant handles around 50,000,000 cubic feet of gas per day.

The Landreth properties also include 175 insulated tank cars, and 2000 acres of land, all practically proven, with 19 producing wells in the Ibex pool.

In the Stroud pool in Lincoln county, Okla., Phillips has bought the Hull-Tyrell gasoline plant. In the Papoose pool the company has obtained gas contracts and ordered equipment for a large plant.

## Foreign Opportunities

**Reserved information may be obtained from the Bureau of Foreign and Domestic Commerce, Washington, and its district and cooperative offices by duly registered firms and individuals upon written request by opportunity number. The Bureau does not furnish credit ratings or assume responsibility as to the standing of foreign inquirers; the usual precautions should be taken in all cases, and where no references are offered it does not necessarily imply that satisfactory references could not be given. Correspondence may be in English unless otherwise stated.**

12308.—**Gasoline in drums and cans,** Malaga, Spain, agency.

**12311.—Paraffin,** Antwerp, Belgium, purchase.

12312.—**Cylinder oil,** Budapest, Hungary, purchase and agency.

12381.—**Lubricating greases in barrels,** Alexandria, Egypt, agency.

12382.—**Machine and other lubricating oils,** Prague, Czechoslovakia, agency.

### Michigan Jobbers Meet Next Month

GRAND RAPIDS, MICH., Nov. 28.—Annual meeting of the Michigan Independent Oil Men's Association will be held Jan. 21 and 22 at Grand Rapids. H. H. Ragle, Jackson, president of the association has invited officers of other state associations to attend to see how the Michigan association functions. The Michigan association employs a field secretary, James A. Gilmore, formerly secretary of the National Association.

### Ohio Jobbers to Meet Dec. 4

COLUMBUS, O., Nov. 28.—A meeting of the Ohio Petroleum Marketers' Association will be held Dec. 4 in the Columbus Athletic Club, Secretary C. A. Laubach announced today.

# Urges Use Of Standard Apparatus And Care In Testing Oils

CLEVELAND, Nov. 28

USE standard apparatus, follow closely the printed directions and take the utmost care in the performance of every step in making tests of petroleum products.

This is the urgent advice of the eastern refiners, contained in the report of the department of standards and tests of the National Petroleum Association. This report, which was presented at the fall meeting of the association at Atlantic City in September, has now been gotten out in booklet form and sent out to members.

The advice is equally important and applicable to the laboratory work of refiners everywhere. The report contains the official methods of standards and tests adopted by the association, revised to September, 1924. The revisions were made to bring the tests and standards into line with those adopted by the Federal Specifications Board and Committee D-2 of the American Society for Testing Materials and published as Bureau of Mines Technical Paper 323-A. The revisions were published in National Petroleum News, Oct. 1 issue.

The desirability of using uniform methods of testing various products throughout the industry—in other words, giving everybody a 36-inch yardstick—is emphasized.

E. C. Gardner, Seneca Oil Works, Warren, Pa., is the trustee of the National Petroleum Association in charge of the department of standards and tests and the other members of the department are: J. B. Turk, American Oil Works; R. M. Shanklin, Crew Levick Co.; W. F. Bennett, Wilburine Oil Co. Works; W. E. Espy, Cosden & Co., and R. C. Osterstrom, Pure Oil Co. A letter accompanying the report invites members of the association or their technical representatives to visit the laboratories of some of the members. The invitation is as follows:

### Invitation to Visit Laboratories

"For the purpose of promoting interchange of ideas and new laboratory methods or the use of improved apparatus between the members of the National Petroleum Association, the chairman of this department has been authorized to extend a cordial invitation to the members of the National Petroleum Association, or technical members of their organizations, to visit the laboratories of some of the members of this association. Through this invitation the laboratories may be visited by application and appointment made through E. C. Gardner."

In introducing a summary of the standard tests and methods, arranged for handy reference, the report of the department of standards and tests says:

"It is generally recognized that it is desirable to have in general use throughout the oil trade simple testing methods and uniform standards that lend themselves primarily to reproducibility and also to scientific accuracy, where this is possible. It is believed that the methods and standards stated herein will meet this real need for uniform methods. The members of the National Petroleum Association are urged to use these testing methods in buying and selling, to refer to them in their correspondence and in their published specification sheets."

The tests, with references to the methods of the A.S.T.M. and of Technical Paper 323-A, follow:

1. *Gravity*—The relationship between true specific gravity at 60 F. and degrees A.P.I. (no longer degrees Baume) is on the basis of the 141.5 modulus.

The C. J. Tagliabue Manufacturing Co. has issued "New and Revised Tag Manual for Inspectors of Petroleum," which contains tables for correcting gravity for temperature and showing the relationship between specific gravity, A. P.I. gravity and pounds per gallon. These tables (barring improbable typogranhical errors) are in agreement with a Circular No. 154 issued by the Bureau of Standards entitled "National Standard Petroleum Oil Tables."

The tables contained in the "New and Revised Tag Manual" and in "National Standard Petroleum Oil Tables" are to be considered as standard by this association.

2. *Distillation of gasoline, naphtha and kerosene*—A.S.T.M. serial designation D86-23T. Technical paper 323-A, pages 46-51.

Note: Cotton is left off the thermometer bulb. In the government method provision is made for small corrections for variations in barometric pressure. The A.S.T.M. method does not include these; but Committee D-2 is studying the matter. Otherwise the two methods are exactly the same.

The current A.S.T.M. method is to be considered the standard of this association.

3. *Doctor test gasoline, naphtha and kerosene*—Technical Paper 323-A—pages 85-86.

4. *Mineral acids in gasoline*—Technical Paper 323-A—page 80.

5. *Flash point of kerosene and other products of low flash*—Tag closed cup tester. A.S.T.M. serial designation D56-21. Technical Paper 323-A—pages 52-55.

6. *Burning test of prime white and water white kerosene*—Technical Paper 323-A—page 67.

Note: The A.S.T.M. will publish a burning test which has been very carefully worked out in detail.

7. *Color test for gasoline, naptha and kerosene* Saybolt chromometer. A.S.T.M. serial designation D156-23T. Technical Paper 323-A—pages 30-32.

8. *Floc test for kerosene*—Technical Paper 323-A—page 64.

9. *Sulfur in gasoline, naptha and illuminating oils*—A quantitative determination of total sulful. A.S.T.M. serial designation D90-21T. Technical Paper 323-A—pages 81-83.

10. *Viscosity of heavy fuel oils, road oils and asphaltic fluxing oils*—Saybolt Furol viscosimeter. A.S.T.M. serial designation D88-23T. Technical Paper 323-A—pages 39-42.

Note: The American Petroleum Institute committee on viscosity standardization has practically completed the standardization of the Saybolt Furol instrument. The bath liquid shall be distilled water maintained at a constant temperature which shall not be above 122.35 F. (Nor, naturally below 122 F.)

11. *Calorific value determination on oils used for fuel*—A bomb calorimeter shall be used according to the best practices of manipulation and computation.

12. *Distillation method for gas oils, etc.*—A. S.T.M. serial designation 158-23T. Reprint 1923 report Committee D-2, pages 11-15. Proceedings A.S.T.M. Vol. 23 Part 1, pages 703-707.

Note: This is a new method superseding as regards gas oil, light fuel oil, etc., serial designation D20-18.

13. *Determination of water in petroleum products*—Distillation method. A.S.T.M. serial designation D95-23T. Technical Paper 323-A—pages 67-70.

14. *Determination of water and sediment by means of centrifuge*—A.S.T.M. serial designation D96-21T. Technical Paper 323-A—pages 70-72.

15. *Determination of total sufur in all oils except gasoline, naptha and kerosene*—This is the oxygen bomb method. A.S.T.M. serial designation D129-22T. Technical Paper 33-A—pages 84-85.

16. *Color of lubricating oils*—N.P.A. color. A.S.T.M. serial designation D155-23T. Technical Paper 323-A—pages 33-36.

17. *Viscosity of lubricating oils*—A.S.T.M. serial designation D88-23T. Technical Paper 323-A—pages 39-42.

Note: See discussion in first part of this report (published in Oct. 1 issue of National Petroleum News.)

18. *Flash and fire points of lubricating oils*—A.S.T.M. serial designation D92-23T. Technical Paper 323-A—pages 61-64.

Note: See discussion in first part of this report. (Published in Oct. 1 issue of National Petroleum News.)

19. *Carbon residue*—Conradson carbon residue. A.S.T.M. serial designation D47-21. Technical paper 323-A—pages 79-80.

Note: The Federal Specifications Board method differs from the A.S.T.M. method in that the A.S.T.M. method provides for a sample of 10 gm. in all cases while F.S.R. method requires

10-gm. sample when carbon residue below 1.5 per cent.
5-gm. sample when carbon residue between 1.5 and 3 per cent.
2-gm, sample when carbon residue above 3 per cent.

Committee D-2 is actively working on the improvement of this test and method D47-21 has been withdrawn.

The Specifications Board test is to be considered standard by this association.

20. *Cloud and pour points*—A.S.T.M. serial designation D97-23T. Technical Paper 323-A—pages 36-39.

Note: The F.S.B. method is the A.S.T.M. serial designation D97-23T. It differs from the 23T method only in wording—the latter being more explicit. This method is not yet entirely satisfactory with some cylinder stocks and black oils, the apparent pour points of which are affected by conditions of storage and sampling. Committee D-2 is vigorously continuing its work on this test and further modification may be expected.

21. *Free acid in lubricating oils*—A.S.T.M. serial designation D47-21. Technical Paper 323-A—pages 80-81.

Note: Alkali Blue 6B is a very nice indicator for this test when a satisfactory product is obtainable. Supplies in the past have been erratic and unreliable. It is essential that the alcohol be neutral, and that the alkali solution be properly standardized. Committee D-2 has recommended the withdrawal of method D47-21. The F.S.B. test is to be considered as standard by this association.

22. *Precipitation number (tar test)*—A.S.T.M. serial designation D91-21T. Technical Paper 323-A—pages 73-75.

Note: This test is not entirely satisfactory chiefly due to variability in solvent action of various diluents all meeting the specification. Committee D-2 is working on the perfection of this test.

23. *Detection of free sulfur and corrosive sulfur compounds*—A qualitative test only. The copper strip test for gasoline, naptha and kerosene. A.S.T.M. serial designation D130-22T. Technical Paper 323-A—page 86.

24. *Pensky-Martens closed cup flash*—A.S.T. M. serial designation D93-22. Technical Paper 323-A—pages 55-61.

Note: The Pensky-Martens closed flash is not

(Continued on next page)

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recommended for lubricating oils, most especially all cylinder stocks.

25. *Saponification number*—A.S.T.M. serial designation D94-21T Technical Paper 323 A—pages 87-88.

26. *Melting point of paraffin wax*—A.S.T.M. serial designation D87-22. Technical Paper 323-A—pages 42-45.

Note: The A.S.T.M. paraffin wax melting point is essentially the same as the English melting point. The so-called American melting point is an arbitrary figure three degrees F. higher than the A.S.T.M. paraffin wax melting point.

27. *Temperature measurements in all oil tests*—Make certain that the thermometers used comply exactly with the thermometers specified in the test methods.

Test all thermometers for accuracy when they are first received and frequently re-check open cup flash, Pensky-Martens high range and distillation thermometers.

Do not use cheap thermometers.

Where no thermometer is specified in the test method, use one graduated for the proper immersion or make emergent stem corrections, or use any other means to secure true and accurate temperature measurement. Where the thermometer is specified, emergent stem errors, if any, become an experimental constant of the test method and, therefore, are not to be taken into consideration.

28. *Melting point of petrolatum*—A.S.T.M. serial designation D127-22T. Technical Paper 323-A—pages 45-46.

Note: The melting point of petrolatum is not a definite physical property like the melting point of paraffin wax and is therefore not capable of being determined with a very high degree of reproducibility. Different laboratories should check one another by 2 degrees F. which is as good reproducibility as may be expected by this (or any other) method.

29. *Grease analysis*—A.S.T.M. serial designation D128-22T. Committee D-2, 1922 reprint pages, 11-19. Proceedings A.S.T.M. Vol. 22, Part 1, pages 768, 776.

Note: The A.S.T.M. will probably make some minor improvements in this method this year.

30. *Emulsification of lubricating oils*—A.S.T.M. serial designation D157-23T. Reprint 1923 report Committee D-2, pages 59-63. Proceedings A.S.T.M., Col. 23, pages 685-689.

Note: Much additional work of Committee D-2 during the past year has further demonstrated that this is the best all around emulsion test that has yet been proposed.

## Another Refinery Being Built At Louisville

CLEVELAND, Nov. 28.—The Louisville Petroleum Refining Co. is rapidly completing its 2000-barrel refinery on the Ohio river below the falls at Louisville, Ky. Col. E. H. Hilpp, vice-president, who attended the National Petroleum Marketers Association convention in Cleveland last week, said the company will operate its two Dubbs cracking units as soon as completed and that the four crude stills being placed will not be operated until later.

The plant eventually will be a complete refinery, manufacturing even lubricants and wax. It is alongside a channel 22 feet deep at low river stage and below the locks at Louisville. Crude may be brought from the Kentucky fields by barging down the Kentucky river and up the Ohio, or down the Ohio from the Cumberland pipe line terminal at Catlettsburg. Mexican or California crude also may be barged up the Mississippi and Ohio from the Gulf.

It is the present intention to start the Dubbs stills on heavy fuel oil, Col. Hilpp said. The company is building its own power plant and all of its pumps will be electrically driven.

Products will be marketed through the Kentucky Consumers Oil Co., an affiliated corporation.

# Credit Manager's Service And His Relationship To Customer

**By John S. Wertz**

**Credit Manager, Vickers Petroleum Co., Wichita, Kans.**

THE credit manager has an important place to fill in the wheels of commerce besides an individual spoke in the wheel of the organization for whom he is working. He is one of the connecting links between his organization and that of the customer.

The first step to take with a customer is to establish loyalty and the credit department is in a better position to build up customer loyalty than anyone in the organization. Let the customer know that you are always ready to serve and assist him in any way, then he will not hesitate to call for help at any time it is needed.

Most men are honest with good intentions, so the duty of the credit manager is to know the man, something about his habits and methods of operation in order to work in cooperation with him. This friendship should not be hard to make with the ordinary customer as the most of them are ready for assistance at any time it will help them to build a sound business.

### Should Educate Customer

The credit manager should, right from the start, educate the customer in taking care of his obligations and impress on his mind the importance of terms. A customer that has learned to respect terms and meet his obligations promptly, as a rule knows how to extend credit to his own customers on proper basis. A customer who has been educated along the lines of credit becomes a very efficient business man, soon having a growing business which is being built up with funds that might otherwise have been dissipated.

On the other hand, if the credit manager does not insist on the customer's taking care of his obligations according to terms specified, the customer soon becomes lax in his payments and will have a tendency to extend easy credit to his own customers, a large amount of which may be impossible to liquidate at the time when it becomes necessary to pay his own obligation. His credit very soon will become limited as this happens, because he will probably find it necessary to ask for extensions of time from his creditors, and the credit manager will realize that he is going to have a loss which might have been averted at the start if he had insisted that his customer meet his obligations promptly.

A customer soon discovers whether or not the credit manager is on the job for I have found from experience that many customers will become lax at times in meeting their obligations if not properly and promptly reminded.

The credit manager can be of assistance to the customer by advising him as to the proper kind and amount of insurance to carry. The customer as a rule understands that fire insurance must be carried on buildings and contents but might overlook carrying it to cover stocks on hand. He should be instructed as to the proper method of handling insurance on a fluctuating inventory. The customer should have pointed out to him the value of carrying business life insurance which is known as "good will insurance" and is of paramount importance. Burglary and liability insurance should also usually be carried.

*THE credit manager is as much of a liaison officer between the refiner and the jobber as the salesman and his position is a far more delicate one, calling for greater tact and diplomacy. How the credit manager can assist the refiner's customer and how the jobber can maintain good credit standing has been outlined by Mr. Wertz in the accompanying article which he prepared for the meeting of refinery credit managers held recently in St. Louis.*—EDITOR.

The credit manager should make an analysis of the customer's inventory so as to be sure he does not become overloaded with stocks having too slow a turnover. If any such stock is found he should prevail upon him to place a price on it even if below cost in order to liquidate it. A large amount of funds can be easily tied up in slow moving commodities and this should be watched, as a large inventory figure may be very deceiving.

### Should Know Conditions

The credit manager should be posted on business conditions in the customer's locality. Crop conditions are a very important factor to watch as they might be very good one year and the farmers entitled to a large extension of credit, while a crop failure may occur the next year which would not entitle them to much credit. The customer might prove to be too lenient in such cases and extend credit on the same basis as when good crops prevail. Other conditions affecting business may be foreseen by the credit manager and the customer should be advised of them prior to their arrival, for as a rule the average customer does not spend much time reading and does not keep up with conditions.

Another important point for the credit manger is to be familiar with the location of the customer's business, the size of his field and just how far he can expand his business in that territory. He may have a location that is bound in all directions by a similar business which will make it impossible to expand profitably. Care should be used in this instance so that the customer does not invest too heavily in fixed assets so as to deplete his current assets.

### Watching Overhead Expense

Overhead expense is a very large item and about the most important to be watched. The business should be studied and expense kept down to conform with gross profits. The customer sometimes does not pay much attention to this factor. He may not have a system adequate to handle his business and does not know what his real profit amounts to. An analysis of his profit and loss statement would show whether this was the case, and if so, pointers should be given by the credit manager which would line him up correctly as to expense items to be set up which might have been overlooked by his bookkeeper.

The customer's financial statement should be watched very closely to see that he is not investing the creditor's money. The customer can easily do this and be honest in his expenditures of such funds, as so many times his system of accounting is inadequate as stated above, and he does not understand thoroughly the analysis of a statement after one is drawn off his books.

It is the duty of the credit manager to analyze property statements carefully and if this is the case, take it up with the customer, pointing out to him the condition existing. So many times this heavy investment of working capital in fixed assets causes the customer to disregard terms on account of tying up his creditor's money. Sometimes this is done intentionally while other cases may be through ignorance in not knowing how to analyze his financial statement.

### Financial Statements

The credit manager should arrange to obtain a property statement or financial statement from the customer periodically, say at least once a year, and comparisons should be made of each item on the different statements to see what progress is being made.

We all understand there are customers who will not submit statements, who feel that their business is their own and no one else's, and that if they take care of their obligations according to terms, that is all the creditor needs. We have a few of this kind who never cause us any trouble, always paying obligations when due and never seeming to need any help. Even though this kind make a very satisfactory customer, one would feel much better if a statement could be secured of their business once a year at least.

The credit manager should never cease trying to get them lined up and educated to submitting reports periodically, no matter what good prosperity they are enjoying, for in these days with conditions changing so rapidly, even the ones in best of circumstances can be on the rocks in a very short period of time.

# Making Service a living fact

SERVICE is first of all knowledge plus the ability to make knowledge useful. That is the power to serve. The final element is the *purpose* to serve.

Purpose concentrates men, and men's minds and machines, on your requirements. It is the desire to fill those needs with containers that adequately carry your products. It is *purpose* that makes service complete.

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CONTAINERS OF TIN PLATE BLACK IRON GALVANIZED IRON FIBRE

# Natural Gasoline—How To Use It And How Not To Abuse It

**By D. E. Buchanan**
**Vice President, Chestnut & Smith, Tulsa**

**Delivered At N.P.M.A. Convention, Cleveland, Nov. 20.**

CLEVELAND, Nov. 21.

FROM the time it was discovered that gasoline would precipitate out of natural gas, when subjected to pressure and low temperature, until about 1907, it was thought that all natural gas contained gasoline in commercial quantities and quality. There were many plants constructed of various designs and considerable financial loss was encountered before it was learned that only "wet" gas containing 2 or more gallons of gasoline per 1000 cubic feet could be treated profitably.

These plants were generally built by producers who made provision to handle only such gas as was produced on their own leases, and it was not until some years later that gas was purchased for the purpose of gasoline extraction. As the business became better established and the market for the product was enlarged, the manufactures commenced buying "wet" gas from adjoining leases.

The industry grew steadily until in 1911 it became of sufficient importance to attract the attention of the U. S. Geological Survey, and it was for that year that the first production figures were recorded by that body.

As early as 1905 applications were filed for U. S. Letters Patent covering the extraction of gasoline from natural gas by the absorption method, and up to 1911 a great deal of experimental work was carried on by various operators. In 1913 a plant especially designed to operate under the absorption method was constructed at Hastings, West Virginia, and this was probably the first plant of its kind of any consequence.

The growth of the industry from 1911 to the present time has far exceeded any early expectation, the production today being equal to approximately 10 per cent of the total gasoline manufactured from petroleum and its products by all processes.

From the crude, inefficient plant of the early days, capable of extracting only a small percentage of the gasoline content, we have the modern plants, both compression and absorption, designed and constructed on scientific principles, many of them monuments to the development of the science of which the industry may be justly proud.

The early plant was operated merely as a side line, whereas the plant of today is operated by men especially trained in this particular branch of the industry, their knowledge being evidenced by the recovery of 95 to 100 per cent of the gasoline content of the gas.

During the past three years a large number of compression plants have been converted to the oil absorption type. The change was found desirable by many companies because of the improvement it made in the product and because of the reduced cost of manufacture.

In compression practice, the extraction of the gasoline carried by the natural gas in suspension is accomplished by low stage compression to approximately 30 pounds, following by high stage compression to from 200 to 250 pounds, the gas after each compression being passed through condensing coils, where the gasoline is precipitated out of the gas while held under this pressure.

### Oil Absorption Process

In the oil absorption process the gas is brought into intimate contact with absorption oil commonly called mineral seal oil, which has a decided affinity for the light gasoline carried by the gas.

After the absorption oil has extracted the gasoline from the gas, the mass is submitted to steam or fire distillation, where the light gasoline is driven off in the form of vapor and then passed through water cooled coils where it is condensed.

In most plants the gas has been partially denuded of gasoline in the absorber as passed to a compressor and subsequently to a condensing coil where the lighter gasoline fractions, not retained by the absorption oil, are recovered.

For 1911 the U. S. Bureau of Mines reported the production of natural gasoline to be 7,400,000 gallons. The industry was about seven years old then. There was about $2,000,000 invested in it and the production for the whole year was less than one-third of the gasoline we now consume on a hot midsummer day. Today, only 13 years later, there are about 1200 plants with between 150 and 200 million dollars invested in the industry and the production for this year will probably be between 900 million and one billion gallons.

### 1500 Gallons Per Car

In 1911 when the natural gasoline industry was getting a start there were 639,000 automobiles in the United States. We produced that year 200,000,000 barrels of crude oil from which about a billion gallons of gasoline was manufactured. This billion gallons would have furnished each of the 639,000 automobiles with 1500 gallons of gasoline per car.

It is, therefore, quite obvious that the new industry, making a new kind of gasoline from natural gas, faced serious handicaps. Not only was there plenty of gasoline without this new kind but there were no generally accepted standard specifications.

The product was wild and considered very dangerous to handle. There was little or no uniformity of quality and a strong general prejudice against it from most all directions. In the struggle to build a new industry, there is usually little cooperation.

Each follows his own individual ideas as to plant equipment and plant operation; hence the product itself is nearly always the last thing to be standardized, and it was not until 1921 that the industry reached the stage of development where it was felt that sufficient co-operation could be obtained among the manufacturers to make successful a general move toward standardization of specifications.

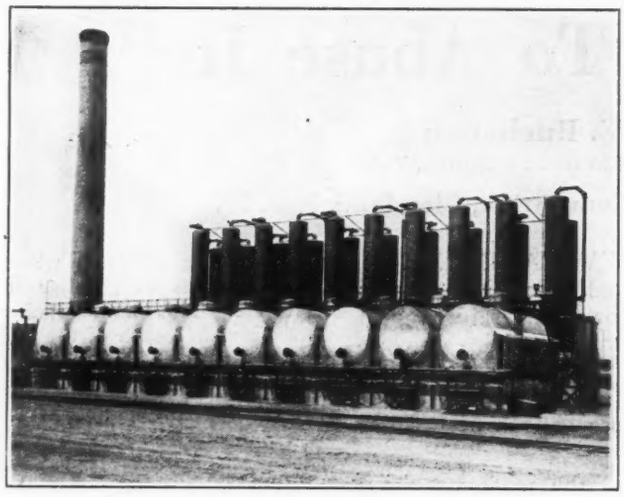
In April of that year a number of manufacturers met in Tulsa and organized the Association of Natural Gasoline Manufacturers. Standardization of product received first and most earnest consideration and their efforts have brought very beneficial results, not only to the natural gasoline industry, but to the entire petroleum industry as well.

### You Get What You Order

Today when you order a car of any of the five grades of natural gasoline, you know just what you are ordering and what you are going to get. The industry has very definitely passed the experimental stage and is now in "quantity production,"

The main characteristic of natural gasoline, as you probably know, is a gravity, considerably higher, consequently a lighter and more volatile gasoline than that recovered from crude oil in refinery practice. It also has a range of boiling points, much lower than gasoline obtained from crude, which means that it vaporizes at a lower temperature.

From year to year the increasing demand for gasoline and the necessity for refiners improving their methods in order to increase the yield thereof and at the same time reduce their unit costs, has made it necessary for them to cut deeper into the crude and extract as



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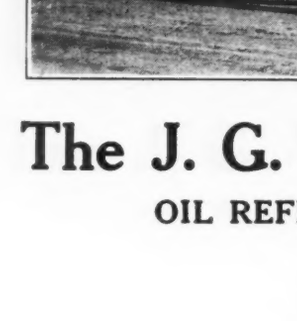

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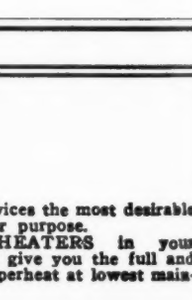


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nearly as possible all the commercial gasoline contained therein.

The development of cracking processes, whereby the molecular construction of the residuum from the distillation of crude oil is broken up and a greater percentage of gasoline obtained, has aided greatly in this direction, but in no less degree has the increasing production of natural gasoline assisted, because in cutting deeper into the crude the gravity of the gasoline produced is heavier and it is not sufficiently volatile to provide the most efficient carburetion in motor use.

In the vernacular of the gasoline man, it would be said that the initial boiling point is too high and the chain of boiling points is too irregular to produce quick, continuous and complete combustion.

### Lighters Refining Gasoline

Natural gasoline with its lighter gravity and lower boiling point range is, therefore, introduced in percentages, ranging from 8 to 15, and the refinery product lightened to the extent that its performance is satisfactory and the maximum efficiency is realized.

Not so long ago, due to a prejudice founded upon mis-information and lack of knowledge as to proper methods of handling, the public believed that the addition of natural gasoline to motor fuel impaired its efficiency and made of the refinery gasoline an inferior product.

During the past five years, many of the large companies have led the way in proving by practical tests that the addition of natural gasoline in the proper percentage, not only enables the refiner to secure a greater yield from the crude, but improves the quality of his product in that quicker starting, more uniform acceleration and a higher percentage of the potential brake horsepower is developed.

Some of the large gasoline distributors in the east go so far as to make the claim that it is possible to develop 15 per cent more power from motor fuel containing the proper percentages of natural gasoline.

Too much is as bad as too little—used like kindling in starting a fire. This is because the fuel is more evenly balanced and produces a more uniform, consequently a more powerful combustion.

### Use Is General

At this time, practically all refiners, unless they are fortunate enough to have a supply of fresh, high gravity crude, are using natural gasoline in some proportion, and the public is slowly but surely coming to the realization that due to the cracking processes, and other methods, to which the refiners have had to resort in order to meet the ever increasing demand it is absolutely necessary that the gasoline contain the proper percentage of natural gasoline, if they are to have quick starting and uniform acceleration, especially in cold weather. The use of natural gasoline has long since passed the experimental stage and is now considered a basic product, ab-


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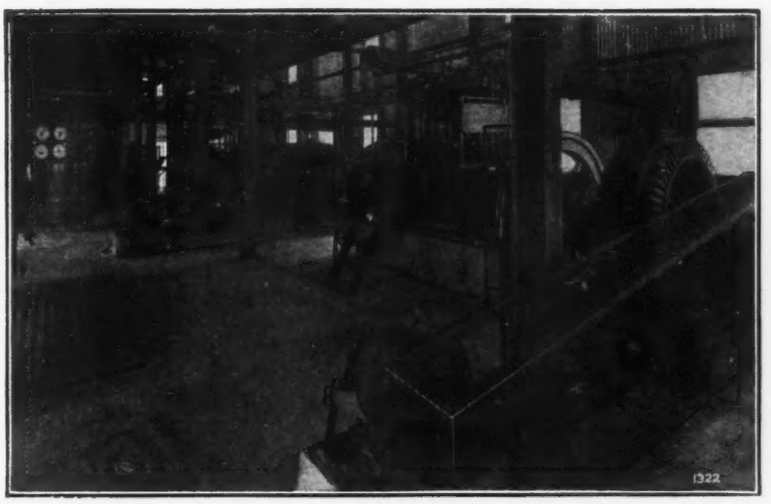


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# Who Said It?

*"The melancholy days are come*
*The saddest of the year"*

Certainly not the jobber who is supplied with our Winter Oils and Winter Gear Compound. He is on the jump trying to serve his trade.

Line up with the rest of the live Jobbers and get the business while your competitors are resting.

***Refinery Sales Department***

**MUTUAL OIL COMPANY**

**Kansas City, Missouri**

solutely necessary in the manufacture of good motor gasoline.

The annual report of the Bureau of Mines, comparing the quality of gasoline supplied to the trade in 1923 as against 1922, calls specific attention to the improvement in the gasoline in 1923, because of the lower initial boiling point, which indicates better starting qualities and because of the larger percentage vaporizing at low temperatures, which indicates more uniform acceleration.

This improvement was brought about solely through the more general use of natural gasoline. If there were no such thing as natural gasoline today I do not believe the gravity of the average gallon of motor gasoline would be over 54 or 55, the IBP would be high and you would have a distillation curve that would look like a dog's hind leg. It would be mighty unsatisfactory motor fuel.

If the crude oil which is being run through our refineries today could have been refined 5,000 or 5,000,000 years ago. whenever it was made, it no doubt would have yielded the ideal gasoline, because the Great Creator does all things well, but during the time it has been stored in the earth, while we have been trying to find out what it was good for and then how to find it and then get it, a large percentage of the lighter and more volatile gasoline fractions have evaporated from it and have been picked up by gas with which it has come in contact.

### Vaporize Underground?

It is very easy to picture a condition where the natural evaporation of the light fractions would be furthered by the warmer temperature of the lower regions of the earth' crust. We don't know from what depth the oil we are producing now originally came. They find it deeper all the time.

There is no natural force of nature present in oil or gas sands which will cause the light gasoline to precipitate out of the gas and back to the crude oil. The service the natural gasoline industry renders is to recover this gasoline and put it back where the Great Creator intended it should be. This is essentially an era of conservation and the function of the natural gasoline industry is truly laudable in that respect.

Natural gasoline is to motor fuel as the absinthe in the cocktail and the gin in gin-rickey, the monkey gland of petroleum.

In 1923 the total production of gasoline in the United States amounted to 7,556,000,000 gallons; there was imported 191,000,000 gallons, making a total supply available of 7,747,000,000 gallons. The domestic consumption was 6,685,000,000 gallons; exports 871,000,000, making a total consumption of 7,556,000,000 gallons.

On Dec. 31 of last year, there was in storage 1,075,000,000 gallons. Had it not been for the production of approximately 900,000,000 gallons of natural gasoline, which is included in the above consumption figures, it will readily be


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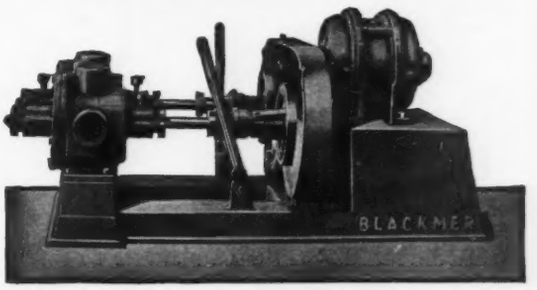


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seen that the stocks of gasoline would have been practically exhausted last year.

Only a short while ago the usual refinery practice in making Navy gasoline was to cut for 58-60 gravity, which from most crude oils yielded a product with an initial of 115 to 120, with an end point of 415 to 420, sometimes as low as 400. Today the refiner is cutting for 437 E.P. which generally yields, except from very high gravity, fresh crude, a 52 to 55 gravity, 140 to 160 I.B. P. 437 E.P. and then to this must be added the production of the cracking stills, which in probably the average case reduces the general gravity and raises the I.B.P. and knocks the distillation curve into the dog's leg I spoke about.

It is only by the addition of natural gasoline in the proper percentage that the gasoline produced in the average refinery today can be balanced as to I. B.P. intermediate boiling point, such as the percentage at 221 and up to 350, as well as gravity to make of it a satisfactory motor fuel. In some refineries, due either to the grade of crude run or the process employed, the gasoline is all right except for the very low gravity, while in others the gravity is high enough but the initial is too high and the percentages, boiling at low temperatures, is too low.

### Natural Gasoline Helps

In either case natural gasoline is correcting their troubles.

Even with all the improved processes in refinery operation, where everything including the smell, is extracted, refiners are not and have not been for many, many months making a return on their investment. And because of the ever-increasing demand for gasoline, as well as the economic necessity for the highest possible efficiency in operation, you need never expect a return of the day when you ordered Navy gasoline and received 60 gravity, 110 I.B.P., 390 E.P. straight run gasoline.

The day of the old time so-called straight run gasoline is gone forever. In fact, it was gone long before some of you took down those "strictly straight run" signs at your filling stations and long before you quit telling your customers your gasoline was better because it had not "Casinghead" in it.

### Public Feared Casinghead

Through misinformation, the motoring public formed the opinion some years ago that natural gasoline, then called "Casinghead," made a very inferior grade of gasoline out of even the best refinery product. The natural gasoline industry accepts a part of the responsibility for this because of the wild product that was being put on the market then and the fact that they manufactured, but at the request of the jobbers if you please, a kerosene blend which went on the market in competition with good gasoline at a time when the jobbers' margin on good gasoline was practically nil.

There would have been money in the kerosene blend business for both the jobber and natural gasoline manufacturer if the stuff could have been made to run a car. But it wouldn't. We should have known it would not be satisfactory but we followed the line of least resistance and gentlemen, we paid and paid dearly for it for two years.

At the same time you followed the line of least resistance and knocked all gasoline containing even a trace of natural gasoline and now you are either going to have to keep still about it or re-educate your trade on the value of natural gasoline because you might as well make up your mind that you are using it.

And why should you keep silent about it? Why not tell the public the truth? Tell them, of course your gasoline has the proper percentages of natural gasoline in it, that it wouldn't be good gasoline if it didn't have. Explain to them how refinery processes have changed and how natural gasoline has made it possible to supply the increasing demand for gasoline and at the same time maintain the high quality they demand.

### Straight Run Dwindling

The filling station operator who is paying for electricity to light a "strictly straight run" sign is as much out of date as a chorus girl who isn't hungry. It goes without saying that with a heavy surplus of gasoline in storage the largest manufacturers and distributors of gasoline in the country would not be buying natural gasoline today if it was not absolutely necessary in order to make the product of their manufacture usable.

As evidence of the fact that natural gasoline is an absolute necessity, we have the movement by practically all the major producing and refining companies of the world installing gasoline plants on their own producing properties and buying additional gas from adjoining properties whereas a very few years ago they were glad to sell their gas to any one who had the nerve to build a gasoline plant.

The addition of natural gasoline in proper proportion to the product of the refinery is no subterfuge and does not constitute the substitution of something we are trying to fool you into believing is just as good.

It is only following in the natural course of events in an era when science is making probably the most radical changes of all times in all lines of industrial endeavor and why should not the oil business be doing a few things that were thought impossible or wrong a few years ago. In the light of the improvements in manufacture and utilization of petroleum products in the past few years we may well expect further improvement and change in the future. We find that condition in almost every other line of industry.

### Natural Gasoline Not Wild

The wild, unruly and dangerous product of a few years ago is gone. From month to month the tendency in natural gasoline manufacture is toward a product more satisfactorily and more easily handled.

(Continued on next page.)

(Continued from preceding page)

Right in this connection I want to say that while we find the large market for our product with the refineries, however due to the changes in processes of manufacture a number of gasoline companies are able now to produce a solvent from natural gasoline, which has already met with great favor among certain rubber manufacturers.

If there is a rubber manufacturer in your territory, it will stand you in good stead to get in touch with them, get their specifications and see if the natural gasoline industry cannot place you in position to handle the business.

In order that you may better visualize the work of the natural gasoline industry, this year, I would like to give you a few illustrative comparisons.

### What Figures Mean

The 900,000,000 gallons, which we will manufacture this year, would fill 112,500 tank cars, enough gasoline if loaded all at one time to make 4,500 train loads, or a string of tank cars 950 miles long, reaching from Tulsa through St. Louis to this great city of Cleveland. It would require the entire power of the Santa Fe, Frisco., Katy, Kansas City Southern and Midland Valley railroads to move this string of loaded tank cars. Just take a mental picture of that train, puffing and snorting across the country.

If the gas processed for natural gasoline recovery this year could be collected all at one time, and at one place, it would form a blanket one foot thick over the entire state of Ohio.

If all the gasoline manufactured this year could be collected in one spot, it would form a lake a half mile wide, three fourths mile long and if you fell in you'd be in gasoline up to your ears. Some of you don't know what it means to be in gasoline up to your ears, even figuratively speaking, but I do. The tank cars distributing natural gasoline this year will probably travel 120,000,000 miles, equivalent to one car travelling around the earth 5000 times.

If one car had to haul it all it would have to travel 14,000 miles per hour, 14 times as fast as the earth travels, and since that would not allow sufficient time for venting the car before unloading each time, and since the refiners are not yet using enough natural gasoline to produce a motor fuel that will move it that fast, we have had to provide about 8,000 insulated tank cars to transport this year's production to market.

I simply give you these comparative figures to show you that the production of natural gasoline no longer constitutes a little one-horse industry, but is one of the vital factors in supplying the gasoline demand of the world. I believe it is to be a generally accepted fundamental principle underlying the industrial development of this nation, that only as an industry serves will it grow and prosper. Although Dame Fortune jilted us in 1922 and we have not seen her since, I believe we can accept the marvelous growth of the natural gasoline industry over the past ten years as a silent testimonial of the service it renders.

## Says Blended Gasoline Will Not Separate

CLEVELAND, Nov. 21.—Natural gasoline, properly blended with a heavier product, positively will not stratify or rise to the top but instead will form a stable, uniform blend. This was stated by Mr. Buchanan in answer to a question at the close of his address. The number of questions asked by jobbers testified to the deep interest in the subject and also to incomplete understanding by many of some of the phases of natural gasoline blending and use.

It was in answer to a query from W. O. Hudson, Marine Oil Co., New Orleans. Mr. Hudson stated that the address had enlightened him on points concerning natural gasoline on which he had always been doubtful. He asked whether the natural gasoline had to be blended under heat and pressure with the heavier gasoline in order to make a stable blend.

Mr. Buchanan replied: "We took a 1000 cc beaker and put in a mixture of lubricating oil, mineral seal oil and almost anything we could find around the plant. The mixture was about 29 gravity. We put on top of that the lightest gasoline we could find around the plant. I think it was eight days and the color was absolutely unchanged. I think it was 29 days we kept running distillation tests and taking samples off the bottom and off the top and I think it was on the twenty-ninth day that we could tell no difference whatever in the distillation test in the sample on the bottom and the sample on the top.

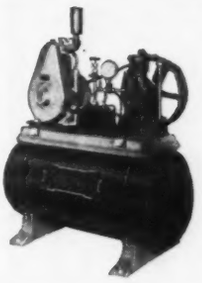
"This statement is borne out by all our operations. All you have to do in blending gasoline is to bring the consituents into intimate contact with one another. That can be done mechanically as you pump one product into the other. Sufficient agitation will do that."

Sam H. Arnold of the Alabama Oil Co., Gadsden, Ala., asked Mr. Buchanan the gravity of the new product that is being used by the rubber companies. Mr. Buchanan replied that it was around 72 gravity although the gravity was not the essential feature. He stated that tne product to be acceptable in the rubber industry must have a 97 to 98 per cent recovery and must be absolutely free from sulfur, not merely treated to stand the doctor test, and must have an end point of 250 to 310.

### Committee Will Meet

TULSA, Nov. 27.—The general executive committee of the Mid-Continent Oil & Gas Association will meet in Fort Worth, Dec. 11, during the meeting of the American Petroleum Institute. It will take up the matter of election of officers of the general association, the consideration of a budget for the safety program for the coming year and several other matters of policy.


*It Pays to Buy a Kellogg*



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*150 lbs. pressure*
*30′ hose*

**Gasoline Drive Compressor**

**The Price is Right**

The Kellogg GE-251-S is the only one being made for small, unwired stations.

Standard in every way.

Other sizes. Send for literature.

**Kellogg Manufacturing Co.**

**Rochester, N.Y.**

New Kellogg Air Tower attracts the motorist by night and day. Air and water service combined. Price, only $60 net.

*Beyond Compare for Pumping Air*

**Farrell for Truck Tanks**

Specially built and equipped for fuel oil delivery. You can use one or more this fall and winter—at good profit.

*Catalog on request*

**FARRELL MANUFACTURING CO.**
Joliet, Ill.
*Sales Office*
644 Washington Boul., Chicago

# Speed
## without effort!

A Brunner Compressor delivers air faster than do ordinary compressors because there is no lost motion, no leaky valves, no loose fitting joints and because its small head clearance allows a "cylinder capacity" expulsion on every stroke.

Thus, running at low speed, this finely built equipment gives you a speedy powerful air current without effort, without stress on its parts and at a minimum cost.

Because of good design and careful expert workmanship in its building the Brunner starts quickly, works fast, runs silently and smoothly, costs little to maintain and lasts long.

There is a Brunner model for every possible need. Ask for the catalogue.

**Brunner Mfg. Co.**
UTICA, NEW YORK

*Oldest and largest manufacturers of garage air compressors in the world*

Branches: Cincinnati, Kansas City, San Francisco
Export office: Utica

**BRUNNER**
AIR COMPRESSORS

**1924 Model 939—2-Stage Compressor**

With 20 exclusive features, a few of which are: Extra large intercooler. Ground contact surfaces. Improved Belt Tightener. Removable Cylinders. Forked-type Connecting Rods—Minimizing vibration.

Every part built with special tools and gauges, insuring absolute interchangeability.

Seamless Steel Tank—Insuring absolute safety. Solderless Compression Couplings.

Brunner Patented No. 73 Safety Valve—Absolutely Air Tight.

---

## *Compare The Difference*

Give one hundred per cent in lubrication

## ADVANCE Lubricants

In the service and the quality. Your trade knows

**AMERICAN**
**Oil Corporation**
**Jackson, Mich.**

---

# GULF Refining Company

*General Sales Offices*
**PITTSBURGH, PA.**
*District Sales Offices*
**New York, Houston, Atlanta, Boston, New Orleans, Tampa, Philadelphia**

**REFINERS OF OKLAHOMA TEXAS AND LOUISIANA**

# PETROLEUM

REFINED OIL
GASOLINE
NAPHTHA
GAS OILS
PARAFFINE WAX
ASPHALT

## Fuel Oil--Lubricating Oils

CYLINDER ENGINE
CORDAGE

**RED AND PALE PARAFFINE OILS**

# Sell Your Own Motor Oil Instead Of Nationally Advertised Brand

**By W. A. McMillan**
**Lindsay-McMillan Co., Milwaukee**

**Delivered Before N.P.M.A. At Cleveland, Nov. 19.**

THE motor oil business is different from the gasoline business and particularly so if we get together on correct specifications and sell our own brands as against nationally advertised oils of various qualities which are sold to us at controlled prices and which we are forced to sell in turn at certain fixed prices.

We all object to having some one else determine the selling price of our gasoline, but some of us do not object to having some one else control our oil business. We know too little about the products that we are handling and trying to sell, although a fundamental rule governing successful selling is, know your line. Some of us are mentally lazy or indifferent and feel that all we have to do is to just get by.

A successful lawyer or a doctor or a business man is a man who constantly studies and who is well informed on all subjects that are of vital interest to him, and who uses this knowledge.

Why do we handle nationally advertised oils? Certainly not because they are quality products. There are a few exceptionally fine nationally advertised oils, but as a general thing they are not as good as the oils that we are handling under our own brands. There are several nationally advertised oils which were originally exceptional products as far as quality is concerned, but which are now about 50 per cent oil and 50 per cent advertising.

### No Control of Quality

We have no control whatever over the quality of nationally advertised oils. They are not always uniform in all parts of the world. With some you will find oils that are drawn from one class of crudes in the east and another class in the Mid-Continent and perhaps still another out on the Pacific coast.

Develop a good line of oils under your own brand and after you have built up your business you will not take the chance of losing the agency for them. If you haven't the facilities to do this work get some one to do it for you, but make your business distinctive and get away from the idea that you can sell the other fellow's products better than you can sell your own.

No long ago I happened to be talking to the service manager of a company which distributes a very prominent make of automobile. A customer started to drive away with a brand new automobile. He stopped and asked the service manager if there was anything particular that he should know about his new car.

The service manager said, "No, you won't have any trouble with this car. It is a wonderful automobile. It is practically fool-proof. All you have to do is to drive it slowly the first 500 miles, watch your gasoline tank, put water in your radiator and battery, and use plenty of good medium oil."

### The Manager's Advice

The customer asked the service manager what brand of oil he should use. The service manager said, "We find that Independent Medium works out best in our motors." He was a very efficient service manager—one of our best customers. He continued, "If you are touring and a long way from home, you can use Mobile A or any other good Pennsylvania oil."

The oil that this man was recommending was not a Pennsylvania oil. It was made from $1.05 crude and not $2.27 crude, and so this service manager was in position to either do us a lot of good or a lot of harm. He needed education, and he got it.

To carry this example a little further, let's take a hypothetical case of what might have happened to this discriminating user of oils. Let us assume that he had bought a new Buick Six. We all know that the best oil for a Buick Six has a viscosity of approximately 60 at 210.

We know this because the General Motor recommends an oil of that viscosity except in extremely cold weather.

The viscosities of oils at 210 F. is the only temperature we are interested in. At 210 we want to know what they look like. This is the temperature of the oil under actual working conditions in a motor.

We will assume that the Buick owner starts out with a good medium nationally advertised oil, 58 at 210. That is pretty nearly right. You won't have any trouble with that oil at all. He goes out in the country and finds that his oil level is rather low, so he stops at a garage where they handle a clear, pale, lemon colored oil, and he asks for medium but he gets practically light.

His motor doesn't use up a lot of oil and his pressure doesn't stay up and it doesn't seem to act quite properly. That fellow should have asked for extra heavy in this particular brand. He should have known better than to ask for medium.

He isn't satisfied at all and he drives 100 or 200 miles further and gets low on oil again and he makes up his mind he isn't going to buy any more of this oil and he can't get the other, so he tries a third which is very similar to the second but he doesn't know that; it is advertised very cleverly.

It doesn't contain any cylinder stock, it is a red oil (I don't know whether you know what it is or not) and he gets into trouble again. He uses up too much oil and doesn't get satisfaction. This poor boob should have asked for extra heavy again but he didn't know that.

### Gets Another Viscosity

Then he travels along to a station where they handle the oil that went to college, and that is what he gets—47, their medium. He couldn't have gotten it at all out of that line.

Then he tries once again. He gets a 50 at 210, which is pretty good, but not quite right. The darn fool should have asked for heavy and gotten 65 at 210. That is the closest thing to it. This oil resists heat. Medium isn't heavy enough. He could have gotten by with heavy.

The point that I would like to make is that, I think we have started a central purchasing department for gasoline and we ought to do the same thing on motor oil.

We have a big asset in the Independend insignia, and let's get out a line of oils that is worthy of that insignia. If we are going to have a committee to investigate the gasoline purchasing proposition, let's do the same thing on oil, and let's not give up our individuality.

Let's handle our own products and sell our own goods, but with the added impetus of the Independent insignia we can get a uniform oil that will have it all over nationally advertised oils as far as quality is concerned. We have a much better chance for proper distribution. I think that we ought to have a committee go into the proposition of what a light oil is, and what a medium oil is, and what a heavy oil is, and what an extra heavy oil is, and let's at least have one brand of oil that we can sell as Independent oil to live up to these specifications.

My suggestion is that a light oil ought to be about 50, a medium 60, heavy 75 and extra heavy 100. Then your extra heavy is twice as heavy as your light, and your heavy is 50 per cent heavier than your light, and you have a definite tangible basis to work on.

There are types of motors that certainly do demand these oils if you are going to give them the most efficient lubrication.

# Would You Give Your Wife A Warford?

YOU'D never think of giving your wife a Warford Auxiliary Transmission for a Christmas present. There are a thousand and one other things that might please her more—things you may or may not be able to give.

Nevertheless, Warford is making a merry Christmas merrier for those who have cut their hauling costs in two. For Warford Transmissions are buying thousands of Yuletide gifts for the wives and families of owners of Warford equipped Ford Trucks.

Now, at the end of the year, look up your transportation costs. Figure how much Warford could save you in providing a 2-ton Ford truck that operates at Ford 1-ton cost, that replaces units costing three times as much. Then call up your Ford dealer and buy your wife a Warford—not for this Christmas, but for next.

***If the Ford dealer hasn't Warford, write to the nearest distributor.***

### *List of Distributors*

Atlanta-Houdaille Co. - Atlanta, Ga.
Dealers' Warford Co., Memphis, Tenn.
George Dietrich - Spokane, Wash.
Dine-DeWees Co. - Canton, Ohio
Dyke Motor Supply Co., Pittsburgh, Pa.
Foster-Warford Co. - Auburn, N. Y.
Hall-Warford Co. - Charlotte, N. C.
Hammel-Gerke Company, Los Angeles, Cal.
Houdaille-Polk Co. - Dallas, Texas
E. W. Jay - - Vancouver, B. C.
Kenney Equipment Company Indianapolis, Ind.
H. N. Knight Supply Co. Oklahoma City, Okla.
McGee-White Corporation Minneapolis, Minn.
Massachusetts Warford Co. Haverhill, Mass.
Motive Parts Corp. - New York City
Motor Specialties Co., - Denver, Colo.
Price Auto Service Co., - Wichita, Kan.
Sieg Company - Davenport, Iowa
Sieg-Warford Co. - Chicago, Ill.
Transmission Sales Co. Stockbridge, Mich.
Wade and Dunton Motors Inc. Lewiston, Me.
Warford Corp. of Canada, Ltd., Windsor, Ont.
Warford Corp. of Canada, Ltd., Toronto, Ont.
Warford-Eastern Co., - Philadelphia, Pa.
Warford Equipment Co., - Seattle, Wash.
Warford-Pacific Co., - San Francisco, Cal.
Warford-Sales Co. of S. Carolina Columbia, S. C.
Warford-Western Co., - Kansas City, Mo.
Wholesale Auto Supply House Tampa, Fla.
Woodward Sales Co. - Portland, Ore.

*Warford*
AUXILIARY TRANSMISSION

**The Warford Corporation, · 44 Whitehall Street, New York City**

***Neither The Warford Corporation nor its manufacturers has any connection whatsoever with any company manufacturing motor cars.***

## Senators Are Proposing; Coolidge May Dispose

By Special Correspondent

WASHINGTON, Nov. 28.—Apparently, a landslide, in its immediate effect upon a president of the United States, is in some ways about as disastrous as a defeat. It President Coolidge had been defeated two weeks ago, plans would be under way, probably, for the accomplishment of legislation before the end of his term. Plans are being made now by those who might have been expected to consult with him before doing any talking, not only for legislation at the coming three months session of congress but for work at a special session which the president is not inclined to summon.

Senators Cummins of Iowa and Borah of Idaho have been extremely active since election day. The Iowa senator thinks an effort should be made at the coming short session to dispose of what he calls railroad problems. He suggests a compromise between himself and Senator LaFollette, as if it would be possible for them to agree upon anything.

LaFollette has been advocating the repeal of that part of the interstate commerce law that directs the making of rates with a view to giving the railroads a reasonable return on the value of the property devoted by them to the public service. The legislation, in the view of many, was foolish when enacted because it enabled the so-called radicals to refer to it as a guarantee to the railroads. It never was that and no one other than those unwilling to read the language was able ever to construe it as a guarantee.

Cummins did his talking before he came to Washington. It irritated many of those who thought the underlying note in the chorus for President Coolidge was a demand that the agitators leave things alone so that the nation might occupy itself with useful work instead of with legislation. But when Cummins got to Washington, it was discovered that an important "if" had been left out of his announcement. Cummins said he favored an effort at railroad legislation at the coming session "if" there could be an agreement before any attempt was made to enact legislation. He said he favored legislation if the railroads could be induced to cease their opposition to consolidation, and if LaFollette would agree.

The fact is that the railroads have not opposed consolidation. They have objected to certain tentative consolidations suggested by the officials of government who had not a cent at stake and therefore, were absolutely free, to suggest the disposition of properties worth billions in a casual and off-hand kind of way. The "if" was greater than the Himalayas because LaFollette has denounced the consolidation section of the law as "monstrous." Getting him to agree was an impossible condition.

Bohah wants an extra session for the passage of taxation legislation. And the recognition of the soviet government. He does not want to even try the tax legislation enacted last winter, along lines laid down by opponents of President Coolidge. He has always been opposed to that theory of the significance of diplomatic recognition laid down by President Wilson when he declined to recognize Huerta, as president of Mexico because he deemed the old Indian's hands reddened with the blood of Madero.

Borah has always stood for that theory of diplomatic recognition which holds that it is no business of the United States to undertake to sit in judgment upon the quality either of the laws of Mexico or the morality or immorality of the president of that or any other country,

Broadly speaking, it has been the American contention that diplomatic recognition means no more than an acknowledgement that in such and such a country there are certain men discharging the duties of officials of government, without saying what the American government thinks of the quality of governing they are doing.

President Coolidge is opposed to a special session of congress. The question of recognition, every president has insisted, in a question for him alone to decide. The taxation law enacted last winter, he thinks should be given a trial. In other words, he cannot see why he should be at the beck and call of senators who, in the recent past, have not shown any inclination to do the things for which he thinks the country, two weeks ago, voted to be executed, as he thinks, when Calvin Coolidge thinks it would be opportune to undertake them.

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### Cement Mills Burn Oil

CLEVELAND, Nov. 28.—Portland cement mills last year consumed 4,700,000 barrels of fuel oil, according to the U. S. Geological Survey. The survey reports a total of 126 plants in the country of which 18 burned oil, 107 coal and one gas. In 1922, 17 plants burned oil. Last year the plants used 30,000,000 pounds of lubricants as against 25,000,000 pounds the year before.

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DAVENPORT, IA., Nov. 27.—The Rand-Hart Oil Co. has been formed here to market Northland motor oil, greases, radio supplies and farm equipment. David Harter is manager and Fred M. Randolph is assistant manager.

---

INDIANAPOLIS, IND., Nov. 27.—Plaza Station and Service Co., has been organized here, with capital at 5000 shares of no par value, to enter the marketing end of the oil business. Directors are: Mark U. Weber, Fred R. Chandler and Norman E. Carter.

*The Best Gift of All*

THE *ideal* gift from the Oil Company to its salesmen, a gift that will create good-will, strengthen the morale, show the samples to best possible advantage, and boost sales!

Any Salesman would be tickled to death to get a convenient, efficient L-U-C-E Display Case on Christmas Day. It is a gift that he will be proud of, a gift that he can put to best possible use in 1925.

The L-U-C-E 301 Combination Portfolio and Display Case shown below will make every one of your Salesmen proud of the Firm he works for, and proud of the samples he carries. Their name may be embossed in Gold, if desired, without charge. Closed, this heavy, 5 oz. black cowhide case makes a favorable, lasting impression on your customers.

Open, however, it is an efficient, attractive Display Case, containing 18 four ounce cut-bottom bottles with metal capped corks, and 6 one ounce squat grease jars. There are no trays to lift out, no metal clips to break the bottles. The flaps are lined with washable Keratol, and the samples backed against red plush. There is also an ample pocket for order book and literature.

301 Combination Folio complete, There is a 10% Cash Discount as well as special quantity discounts. Satisfaction is guaranteed. **$24.00**

*Send for our new Catalog of L-U-C-E Gift Luggage.*

L-U-C-E

*Builders of Sales Luggage*

614 Delaware KANSAS CITY, MO.

# SAMPLE OIL BOTTLES

FROM the "gusher" to the "loading rack" effort has succeeded effort, no doubt, to insure the present Quality of your product.

How essential is it then that the Sample Oil Bottles which display your stocks to observing buyers, should represent faithfully and to advantage this Quality you are so proud of?

Our seamless Oil Bottles of clear flint glass have rendered valuable sales assistance to the oil industry for many years. They are available in 2 oz., 4 oz., and 8 oz. sizes with ground and polished bottoms when specified.

We want you to see for yourself how attractive your oil sample will appear in one of these crystal clear bottles. Write us today for a free sample bottle.

**Illinois Glass Company**

ALTON, ILLINOIS.

***Branch Offices In All Principal Cities.***

---

**PRUDEN SYSTEM** SAINT PAUL

*This, one of many Pruden styles, is the lowest priced, thoroughly practical station on the market.*

## Keeping "Overhead" low

Spells profits in the filling station business.

Using PRUDEN SYSTEM all steel buildings for your filling stations will put your overhead down to the minimum, because

1. They cost about a third as much as a brick building, giving the same service.
2. They are quickly put up, enabling you to be doing business in them long before a brick or stucco building would be erected.

Agents wanted

**Metal Shelter Co**

Wabasha & Water Sts.

SAINT PAUL, MINN.

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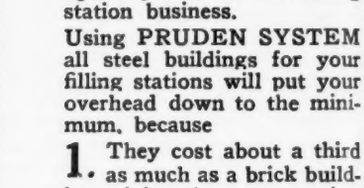

## Barrel Flanges That Combine Low Cost and High Quality

Made of pressed steel.

Low welding cost.

Tight seal.

Flange flush with barrel shell.

Gasket surface smooth and flat.

Made in ¾", 1½" and 2" sizes.

Standard thread as used by all barrel manufacturers.

*Write us for prices.*

**THE BETTCHER STAMPING & MFG. COMPANY**

Cleveland . Ohio

# ON THE LAZY BENCH

### SHOO FLY

**From the Bridgeport Driller**

A HOSS-FLY lit on an old cow's skin,
Hung his tools and spudded in;
He bowed his back and giggered his pole
And all the time he was makin' hole
The cow browsed on in the usual way
Till the hoss-fly's bit dropped into pay,
Then she swung her tail with a vicious dig,
And deftly skidded the hoss-fly's rig.

—The Empire

**Which inspired the following:**

Now this old hoss-fly that was making hole
By bowing his neck and giggering his pole
Using antiquated methods like any pole rigger,
Had he been more modern this is how he'd dig her:
He'd have used a Standard Rig and cable tools,
Guyed his derrick and followed the rules,
Used drive pipe to start when he spudded in
And he'd have better luck on the old cow's skin.

She'd have stood there calmly chewing her cud,
While the old hoss-fly was drilling for blood.
He could have carried his pipe and reamed his hole,
(She drills faster with a cable than she does with a pole)
When the tools struck pay and she switched her tail
He'd get his production by starting to bail.

—Rig & Reel

**And then:**

When the old cow skidded the hoss-fly's rig
He lit on another and started to dig,
And he drilled right down through dirt and grit,
He dumped the bailer and honed his bit.
He jacked his jars and he jumped his pins,
But at last he finished and drilled her in.
Then he said to himself when his tank was full;
"I'm an oil man sure, for I'm loaded with bull."

—The Squirt Can

◈ ◈ ◈

**It's Often Done This Way**

"Pa, who presents people at court?"
"In this country, my son, it is generally done by a policeman."

—The Kansas Oil News.

**Too Long**

A farmer came to town to insert a death announcement.

"How much do you charge?" he asked.

"Ten shillings an inch," was the reply.

"Heavens! He was over six feet high!"

—Magnolia Oil News

◈ ◈ ◈

**Accidental**

"I don't see what claim you have for this accident," said the agent. "You were thrown out of the car, but by your own statement you were not hurt."

"Well, wasn't it by the merest accident that I escaped injury?" returned the claimant.

—The Kansas Oil News.

◈◈◈

Where's Al these days?
Al who?
Al Cohol.
I don't know. Kerosene him last week; hasn't benzine since—gasoline(d) against a lamp post and took a naptha.

—Union Oil Bulletin.

◈ ◈ ◈

**No Statistics**

Rub—"How many fish did Dobbs catch?"

Dub—"I haven't the least idea. Nine, he says."

—Pennico News

◈◈◈

**Statistically Speaking**

"Who was that guy you were talking so nice to?"

"Aw, that's my old family druggist."

"What did he say?"

"No."

—The Exchange Spark

◈ ◈ ◈

Patient: "Do you think I'll get well, doctor?"

Doctor: "You have every chance. Nine out of ten cases of this kind die. You're my tenth case; I've had nine others and they all died."

—Union Oil Bulletin.

◈ ◈ ◈

**The Tool Dresser's Prayer**

Now I lay me down to sleep
All curled up in a little heap,
Keep me free from sin and harm
And help me hear that darn'd alarm.

—Bridgeport Driller

◈ ◈ ◈

Q: Why does a flapper resemble a bungalow?

A: Because she's painted in front, shingled behind, and no attic.

—N. P. N.


# CANADA

We specialize in high gravity Gasoline

*Let us have your inquiries*

68-70 Straight Run
350-360 E. P.

64-66 Straight Run
375-390 E. P.

64-66 Motor Natural
437-440-450 E. P.

42-44 W. W.
Doctor Sweet Kerosene

38-40
Prime White Distillate

**Randolph Petroleum Company**
**Tulsa, Oklahoma**

EVERY lubricating oil marketed under the Sinclair trade-mark is made for the perfect lubrication of some particular machine.

The Sinclair Trade-mark oils are suitable for the lubrication of all machines from high speed Cotton Spindles to ponderous Rolling Mill Equipment. This trade-mark stands for the most complete satisfaction in general lubrication practice.

SINCLAIR REFINING COMPANY

New York: Sinclair Oil Building, 45 Nassau Street

*Cable Address "Lucent"*

# SINCLAIR OILS

# REFINERY-TANK WAGON MARKETS

## Gasolines Advance Sharply As Export Activity Continues

Staff Special

TULSA, Nov. 29

PRICE advances on all grades of gasoline with high gravity export material leading the list, having featured Mid-Continent refinery markets during the last week in November. Increases in prices have ranged from ¼ cent on U. S. Motor to a full cent per gallon on 64-66, 375 end point gasoline.

Kerosene and distillates are still quiet and rather sluggish without price change. Lubricating oils have been featureless. Fuel oil has advanced under active trading for delivery over December and gas oil has exhibited strength without price change.

Activity of exporters is of chief interest in Mid-Continent markets. While orders placed so far have not been large, buyers' interest has been sustained and inquiries have been brisk.

The small quantity of export gasoline sold is largely due to the fact that there is no storage in the field from which the material could be taken and refiners are not willing to change over to high gravity cuts and sell for future delivery even at the new level of prices.

### Eleven Cents for 64

The market for 64-66, 375 end point gasoline appears to be almost anything the refiner wants to ask. At the opening of the week odd cars were moving at 10 to 10¼ cents on domestic orders and exporters were bidding those prices for December delivery on any quantity. Yesterday (Nov. 28) the Atlantic Refining Co. bought 100 cars of 64-66 in north Texas at 11 cents per gallon. Some domestic 64 has changed hands at that figure in Group 3 also.

Commenting on the gasoline situation in Oklahoma and Kansas one exporter said today that he believed there were not 25 cars of 64-66, 375 end point gasoline in storage in the two states which could be applied on an export order. The problem of the exporter who wishes to buy, is to persuade the refiner to make the goods desired. Thus far refiners have such an excellent demand from domestic consumers that they will not make the lighter material sought even with a margin of 3 cents per gallon over U. S. Motor.

There has been some buying of U. S. Motor itself for export. One large Independent is reported to have bought 185 cars. A little of this was to be moved into the southwest to stations of the purchaser while the remainder was to be shipped to the purchaser's Gulf refinery. Another large company was represented in the field by a buyer just before Thanksgiving. The buyer offer as high as 8⅛ cents per gallon for U. S. Motor for export but refused to buy at 8¼ which was quoted to him.

### Many Inquiries

At least a half a dozen companies which buy in the Mid-Continent at intervals, have circulated more or less tentative inquiries recently. In most cases little business has been done, largely because the Group 3 market has been advancing even more rapidly than the export market at the Gulf.

Domestic trading has been active during the past week on gasoline for December delivery. Jobbers have been buying ahead in such good volume that a number of refiners announce that a large part of their production has been obligated for the month. One refiner stated today that 75 per cent of his production has been sold in advance and that no more gasoline will be offered except as regular customers come in from day to day for spot goods. Another refiner states that he would have no gasoline to sell before Dec. 15 several others are sold up past Dec. 10.

### Well Sold Ahead

Refiners who have sold up in advance have done so at prices ranging from 8 to 8½ cents per gallon with most of the sales made during the past few days at 8½ cents. Two weeks ago some U. S. Motor was selling for December delivery at 7¾ to 7⅞ cents. Those who have sold have done so because they like to be assured of an outlet for all of their December production even though winter weather may become more severe and spot demand fall off.

The gasoline market for spot shipment is in a chaotic condition today as U. S. Motor appears to be in the transitional stage, moving upwards another ¼ cent per gallon. Some refiners are making no quotations today but will probably announce a new price the first of the week. At least two of the larger refiners among the Independents are still quoting 8¼ cents on Motor today but say they expect to ask 8½ cents next week. One large Independent is quoting only on naptha and high gravity domestic grade gasoline while he is seeking to buy competitive grades of domestic gasoline to supplement his own production. It appears probable today that the market will rule largely at 8½ cent on Motor next week.

### Some Holding to Spot

Several refiners in the field have consistently refused to accept December orders. They believe the upward movement will continue after Christmas at least, that crude may advance before Jan. 1 and that jobbers will continue buying freely during the month and accumulate some material in their tanks in advance of their sales requirements. They are looking forward also to an increased movement into export channels.

Even though demand should slump a great deal during December it is unlikely that gasoline would become a burden

(Continued on page 101)

## Mid-Continent Refinery Operations Week Ending Nov. 21

### As Compiled by National Petroleum News

| | Kansas | Oklahoma | N. & C. Texas | N. La.-Ark. | Total |
|---|---|---|---|---|---|
| Plants Reporting | 21 | 40 | 38 | 13 | 112 |
| Capacity (Bbls.) | 95,700 | 127,100 | 132,500 | 39,900 | 395,200 |
| Daily Aver. Crude run to Stills | 49,151 | 70,386 | 65,813 | 30,633 | 215,983 |
| Daily Aver. Re-run Oils to Stills | 7,760 | 8,885 | 8,937 | 269 | 25,851 |
| | 56,911 | 79,271 | 74,750 | 30,902 | 241,834 |
| **GASOLINE—Gallons** | | | | | |
| Stocks Nov. 14 | 5,558,037 | 17,964,019 | 11,708,359 | 3,276,532 | 38,506,947 |
| Prod. 11/14-11/21 | 6,156,415 | 7,243,465 | 7,285,868 | 1,741,608 | 22,427,356 |
| Shipments 11/14-11/21 | 5,976,730 | 7,025,392 | 7,848,822 | 1,661,438 | 22,512,382 |
| Stocks Nov. 21 | 5,737,722 | 18,182,092 | 11,145,405 | 3,356,702 | 38,421,921 |
| Ratio Sales to Prod | 97.1% | 97% | 107.7% | 95.4% | 100.4% |
| **KEROSENE—Gallons** | | | | | |
| Stocks, Nov. 14 | 6,734,259 | 3,726,665 | 6,376,111 | 476,400 | 17,313,435 |
| Prod. 11/14-11/21 | 1,603,797 | 1,745,553 | 1,855,165 | 731,455 | 5,935,970 |
| Ship. 11/14-11/21 | 1,240,403 | 1,774,236 | 2,480,460 | 524,053 | 6,019,152 |
| Stocks Nov. 21 | 7,097,653 | 3,697,982 | 5,750,816 | 683,802 | 17,230,253 |
| Ratio Sales to Prod | 77.3% | 101.6% | 133.7% | 71.6% | 101.4% |
| **GAS & FUEL OIL—Gallons** | | | | | |
| Stocks Nov. 14 | 14,160,607 | 22,155,752 | 35,472,954 | 4,203,662 | 75,992,975 |
| Prod. 11/14-11/21 | 5,973,357 | 10,104,772 | 10,676,009 | 6,336,899 | 33,091,037 |
| Ship. 11/14-11/21 | 5,627,242 | 10,079,096 | 10,364,544 | 6,037,278 | 32,108,160 |
| Stocks 11/21 | 14,506,722 | 22,181,428 | 35,784,419 | 4,503,283 | 76,975,852 |
| Ratio Sales to Prod | 94.2% | 99.2% | 97.1% | 95.3% | 97.0% |

"Be Square Products"

# BARNSDALL

## Engaged in Every Branch of the Petroleum Industry

The BARNSDALL REFINING COMPANY is one of the subsidiaries of the BARNSDALL CORPORATION, which has assets of over Forty Million ($40,000,000) Dollars;

With twenty-seven thousand domestic gas customers in twenty-eight municipalities in the states of New York and Pennsylvania;

With approximately 300,000 acres of oil and gas leases extending from Pennsylvania to California—with only ninety thousand acres operated and developed, upon which there are twenty-six hundred oil wells producing more than seven thousand barrels of crude oil daily and six hundred twenty-five gas wells, and six hundred miles of pipe lines;

With a fully equipped, complete, modern refinery located at Barnsdall, Oklahoma, in the heart of the corporation's mid-continent production, with over one hundred miles of pipe line transporting the crude oil to the refinery, where it is manufactured into high grade, uniform quality products, including Lubricating Oils, Cylinder Stocks and Wax;

With twelve absorption gasoline plants to extract the natural gasoline from the casing head gas of the producing oil wells and a fleet of steel tank cars for shipping and transporting all of its refined oils to market;

With an export department constantly preparing shipments of Barnsdall Products for export to European countries and South America, through the ports of New Orleans and Mobile;

With a large warehouse and storage plant in Kansas City, Mo., with distributing stations well located in the agricultural country of Missouri and Kansas;

Our Own Crude
Our Own Pipe Lines
Our Own Refinery
Our Own Tank Cars

*"A Dependable Source Supply"*

## BARNSDALL REFINING COMPANY

910 South Michigan Ave., Chicago, U. S. A.

New York Pittsburgh Detroit St. Louis Kansas City St. Paul Los Angeles Tulsa

Foreign Offices:
Paris Buenos Aires
Antwerp
Cable Address: Bigheart, Chicago

# Refinery Markets on Light Oils and Lubricants

**Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California**

## GASOLINE AND NAPTHA

| PENNSYLVANIA | Prices Dec. 1 | Prices Nov. 24 | Prices Nov. 17 |
|---|---|---|---|
| 52-54 Naptha | -10¾ | -10¼ | -10 |
| 54-56 Naptha | -11 | 10¼-10½ | -10¼ |
| 55-60 Gasoline | 11 -11½ | 10¾-11¼ | 10½-11 |
| 60-62 Straight-run gasoline | 12 -12½ | 12 -12¼ | 11¾-12 |
| 62-64 Straight-run gasoline | 13¼-13½ | 13 -13¼ | 12½-13 |
| 64-66 Straight-run gasoline | -14½ | 14 -14½ | 13½-14 |
| 68-70 Straight-run gasoline | 18½-19 | 17½-18½ | 17½-18 |
| **OKLAHOMA** | | | |
| 48-50 450 E. P. naptha | 7½- 7¾ | - 7 | 6¾- 7 |
| 50-52 450 E. P. naptha | 7¾- 8 | - 7¾ | 7 - 7¼ |
| 56-58 450 E. P. gasoline | - 8¼ | 7½- 7¾ | - 7½ |
| 58-60 U.S.Motor 437 E.P.131 i.b.p. | - 8½ | 7¾- 8 | - 7¾ |
| 60-62 400 E. P. gasoline | 9¾ 10 | 9 - 9¼ | - 9 |
| 64-66 375 E. P. gasoline | -11¼ | 10 -10¼ | -10 |
| 68-70 350 E. P. gasoline | 11¼-12 | 10¾-11 | 10½-10¾ |
| **NORTH TEXAS** | | | |
| 48-52 450 E. P. naptha | 7¾- 8 | - 7 | 6¾- 7 |
| 56-58 450 E. P. gasoline | 8¼- 8¾ | 7½- 7½ | 7¼- 7½ |
| 58-60 450 E. P. gasoline | 8½- 8¾ | 7¾- 7¾ | 7½- 7¾ |
| 58-60 U. S. Motor gasoline | - 8¾ | 7¾- 8 | - 7¾ |
| 60-62 400 E. P. gasoline | -10 | 9 - 9¼ | - 9 |
| 64-66 390 E. P. gasoline | -11 | -10 | 9¾-10 |
| 64-66 375 E. P. gasoline | 11¼ 11¾ | -10¼ | 10 -10¼ |
| 68-70 350 E. P. gasoline | 11¾-12 | 10¾-11 | 10¾-11 |
| **NORTH LOUISIANA** | | | |
| 58-60 450 E. P. gasoline | 8½- 8¾ | 8¼- 8½ | 7¾- 8⅛ |
| 58-60 437 U. S. Motor Gasoline | 8¾- 9 | 8½- 8¾ | 8⅛- 8¼ |
| 64-66 390-400 E. P. gasoline | 11½-11½ | -10½ | 10 -10¼ |
| 64-66 375 E. P. gasoline | 11¾-11¾ | -10¾ | - |
| **ARKANSAS** | | | |
| 58-60 450 E. P. gasoline | 8½- 8¾ | 8¼- 8½ | 8¼- 8½ |
| 58-60 U. S.Motor gasoline | 8¾- 9 | 8½- 8¾ | 8½- 8¾ |
| 64-66 375 E. P. gasoline | 11½-11¾ | -10¾ | 10¼-10½ |
| **CALIFORNIA** | | | |
| 54-56 U. S. Motor gasoline | - 9 | - 9 | 9 |

Note: This is without the 2-cent state tax included in the price by California refiners for shipments within the state.

## NATURAL GASOLINE

| | | | |
|---|---|---|---|
| **OKLAHOMA** | | | |
| Grade Double A | - 9 | - 8¾ | - 8¾ |
| Grade A | - 9 | - 8¾ | - 8¾ |
| Grade Double B | - 8¾ | - 8½ | 8¼- 8½ |
| Grade B | - 8¾ | - 8½ | 8¼- 8½ |
| Grade C | 8¼- 8½ | 8¼- 8½ | - 8¼ |

NOTE.—Specifications adopted by Ass'n of Nat. Gaso. Manufacturers:
Grade Double A.—80-87.9 gravity, 90% recovery, not over 375 E.P.
Grade A.—72-79.9 gravity, 90% recovery, not over 375 E. P.
Grade Double B.—84-92 gravity, 85% recovery, not over 375 E. P.
Grade B.—76-83.9 gravity, 85% recovery, not over 375 E. P.
Grade C.—80-90 gravity, 78% recovery, not over 375 E. P

| | | | |
|---|---|---|---|
| **NORTH TEXAS** | | | |
| *Grade Double A | 8¾- 9 | 8½- 8¾ | - 8¾ |
| *Grade A | 8¾- 9 | 8½- 8¾ | - 8¾ |
| *Grade Double B | - 8¾ | 8¼- 8½ | - 8¼ |
| *Grade B | - 8¾ | 8¼- 8½ | - 8¼ |
| Grade C | - 8½ | - 8¼ | - 8¼ |

*F. O. B. Breckenridge

| | | | |
|---|---|---|---|
| **CALIFORNIA** | | | |
| 73-78 375 E. P. | -11 | -11 | -11 |
| **OKLAHOMA NATURAL GASOLINE—BLENDS** | | | |
| 58-60 450 E. P. | 8¼- 8½ | 8 - 8¼ | 7¾- 8 |
| 64-66 435-440 E. P. | 8½- 9 | 8¼- 8½ | 7¾- 8 |
| **NORTH TEXAS** | | | |
| 64-66 435-440 E. P. | 8¾- 9 | 8 - 8¼ | 7¾- 8 |
| **PENNSYLVANIA** | | | |
| 68-70 Grav. 437 E. P. | 12¼-12½ | 12 -12¼ | 11½-11¾ |
| 64-66 Grav. 437 E. P. | 12 -12¼ | 11¾-12 | 11½-11¾ |
| 60-62 Grav. 437 E.P. | 11¼-11½ | 10¾-11 | 10½-11 |
| 68-70 Grav. 420 E. P. | 13 -13½ | 12¾-13 | 12½-13 |
| 68-70 Grav. 400 E.P. | 14 -14½ | 13½-13¾ | 13 -13½ |

## BURNING OILS

| | | | |
|---|---|---|---|
| **PENNSYLVANIA** | | | |
| 45 Water White Kerosone | - 7½ | 7¼- 7½ | 7¼- 7¼ |
| 46 Water White Kerosene | 7¾- 8 | 7¾- 8 | 7½- 7¾ |
| 47 Water White Kerosene | 8½- 8¾ | 8½- 8¾ | 8¼- 8½ |
| 300 Burning Oil | - 7¾ | - 7½ | - 7½ |
| **OKLAHOMA** | | | |
| 40-42 Prime White Distillate | 4 - 4¼ | 4 - 4¼ | 4 - 4¼ |
| 41-43 Water White Kerosene | 4⅜- 4⅝ | 4⅜- 4½ | 4⅜- 4½ |
| 42-44 Water White Kerosene | 4½- 4¾ | 4½- 4¾ | 4⅝- 4¾ |
| **NORTH TEXAS** | | | |
| 41-43 Water White Kerosene | 4⅜- 4½ | 4¼- 4½ | 4⅜- 4⅝ |
| 42-44 Water White Kerosene | 4½- 4¾ | 4½- 4¾ | 4½- 4¾ |
| **NORTH LOUISIANA** | | | |
| 41-43 Water White Kerosene | 4⅝- 4¾ | 4½- 4¾ | 4¾- 5 |
| **ARKANSAS** | | | |
| 41-43 Water White Kerosene | 5 - 5¼ | 5 - 5¼ | 5 - 5¼ |
| 42-44 Water White Kerosene | 5¼- 5½ | 5¼- 5½ | 5¼- 5½ |
| **CALIFORNIA** | | | |
| 40-42 Water White Kerosene | -14 | -14 | -14 |

## NEUTRAL OILS

| PENNSYLVANIA | Prices Dec. 1 | Prices Nov. 24 | Prices Nov. 17 |
|---|---|---|---|
| **(Viscosity at 70°F.)** | | | |
| 220 Vis. No. 3 Assoc. Filt. | -27 | -25¾ | -24 |
| 200 Vis. No. 3 Assoc. Filt. | 24½-25 | 23¾-23 | 21½-22½ |
| 180 Vis. No. 3 Assoc. Filt. | 22 -22½ | 20 -21 | 19½-20 |
| 150 Vis. No. 3 Assoc. Filt. | -20 | 18 -19 | 17½-18 |
| **(Non-Viscous)** | | | |
| 34 Grav., 350-360 Flash | - 7¾ | - 7½ | - 7½ |
| 36 Miners Neutrals 300-305 Flash | - 7 | - 7 | - 6½ |
| **OKLAHOMA** | | | |
| **(Viscosity at 100° F.)** | | | |
| 70 Vis. No. 2½-3 color | 4¼- 4½ | 4¼- 4½ | 4¼- 4½ |
| 100 Vis. No. 2 color | 4¾- 5 | 4¾- 5 | 4¾- 5 |
| 100 Vis. No. 2½-3 color | 4¼- 4½ | 4¼- 4½ | 4¼- 4½ |
| 150 Vis. No. 3 color | 7¼- 7½ | 7¼- 7½ | 7¼- 7½ |
| 150 Vis. No. 4 color | 6¾- 7 | 6¾- 7 | 6¾- 7 |
| 180 Vis. No. 3 color | 8¾- 9 | 8¾- 9 | 8¾- 9 |
| 180 Vis. No. 4 color | 8¼- 8½ | 8¼- 8½ | 8¼- 8½ |
| 180 Vis. No. 5 color | 7¾- 8 | 7¾- 8 | 7¾- 8 |
| 200 Vis. No. 3 color | 10¼-10½ | 10¼-10½ | 10¼-10½ |
| 200 Vis. No. 4 color | 9¾-10 | 9¾-10 | 9¾-10 |
| 200 Vis. No. 5 color | 9¼- 9½ | 9¼- 9½ | 9¼- 9½ |
| 220 Vis. No. 3 color | 11¾-12 | 11¾-12 | 11¾-12 |
| 220 Vis. No. 4 color | 11 -11¼ | 11 -11¼ | 11 -11¼ |
| 220 Vis. No. 5 color | 10¼-10½ | 10¼-10½ | 10¼-10½ |
| 240 Vis. No. 3 color | 13¾-14 | 13¾-14 | 13¾-14 |
| 240 Vis. No. 4 color | 13 -13¼ | 13 -13¼ | 13 -13¼ |
| 240 Vis. No. 5 color | 12¼-12½ | 12¼-12½ | 12¼-12½ |
| 280 Vis. No. 3 color | 16½-17 | 16½-17 | 16½-17 |
| 280 Vis. No. 4 color | 15¼-15½ | 15¼-15¾ | 15¼-15½ |
| 280 Vis. No. 5 color | 13¾-14 | 13¾-14 | 13¾-14 |
| 300 Vis. No. 5-6 color | 17 -17½ | 16¾-17 | 16¾-17 |
| **GULF COASTAL** | | | |
| **(Viscosity at 100°F; cold test 0)** | | | |
| 100 Vis. No. 2 Color Unfilt. Pale | 8½- 9 | 8½- 9 | 8½- 9 |
| 200 Vis. No. 3 Color Unfilt. Pale | 13 -14 | 13 -14 | 12½-13¼ |
| 300 Vis. No. 3 Color Unfilt. Pale | 15½-16 | 15 -16 | 15 -16 |
| 500 Vis. No.3½ Color Unfilt. Pale | 17½-18 | 17 -18 | 17 -18 |
| 750 Vis. No. 4 Color Unfilt. Pale | 22½-23½ | 22½-23½ | 22½-23½ |
| 200 Vis. No. 2 Color Filt. Pale | 22 -23 | 22 -23 | 22 -23 |
| 300 Vis. No. 2 Color Filt. Pale | 25½-26½ | 25½-26½ | 25½-26½ |
| 500 Vis. No. 2½ Color Filt. Pale | 29½-30½ | 29½-30½ | 29½-30½ |
| 750 Vis. No.2½ Color Filt. Pale | 39½-40½ | 39½-40½ | 39½-40½ |
| 200 Vis. No.5½ Color Red Oil | 11 -12 | 11 -11½ | 11 -11½ |
| 300 Vis. No.5½ Color Red Oil | 13½-14½ | 13½-14½ | 13½-14½ |
| 500 Vis. No. 6 Color Red Oil | 15½-16 | 15½-16 | 15½-16 |
| 750 Vis. No. 6 Color Red Oil | 20½-21½ | 20½-21½ | 20½-22 |
| **CALIFORNIA** | | | |
| **(Viscosity at 100° F.)** | | | |
| 100 Vis. No. 2 color | 13½-14½ | 13½-14½ | 13½-14½ |
| 100 Vis. No. 3 color | 9 -10 | 9 -10 | 9 -10 |
| 200 Vis. No. 3 color | 15 -16 | 15 -16 | 15 -16 |
| 300 Vis. No. 3 color | 16 -17 | 16 -17 | 16 -17 |
| 450 Vis. No. 3½ color | 19½-20½ | 19½-20½ | 19½-20½ |
| 550 Vis. No. 3 color | 21½-22½ | 21½-22½ | 21½-22½ |
| 600 Vis. No. 3½ color | 23½-24½ | 23½-24½ | 23½-24½ |
| 100 Vis. No. 5 color | 8 - 9 | 8 - 9 | 8 - 9 |
| 200 Vis. No. 5 color | 13½-14½ | 13½-14½ | 13½-14½ |
| 300 Vis. No. 5 color | 14 -15 | 14 -15 | 14 -15 |
| 400 Vis. No. 5 color | 16 -17 | 16 -17 | 16 -17 |
| 500 Vis. No. 5 color | 17 -18 | 17 -18 | 17 -18 |
| 600 Vis. No. 6 color | 18 -19 | 18 -19 | 18 -19 |
| 700 Vis. No. 7 color | 19½-20½ | 19½-20½ | 19½-20½ |

## CYLINDER STOCKS

| | | | |
|---|---|---|---|
| **OKLAHOMA** | | | |
| 190-200 Vis. at 210° Bright Stock | 29 -34 | 29 -34 | 29 -34 |
| 150-160 Vis. at 210° Bright Stock | 26 -30 | 26 -30 | 26 -30 |
| Medium Filtered Stock | 16 -17 | 16 -17 | 16 -17 |
| 600 Steam Refined Olive Green | 7½- 8 | 7 - 7½ | 7 - 7¼ |
| 600 Steam Refined Dark Green | 5½- 6½ | 5½- 6½ | 6 - 6¼ |
| Black Oil | 4 - 4¼ | 4 - 4¼ | 4 - 4¼ |
| **PENNSYLVANIA** | | | |
| **(1-inch Immersion Test)** | | | |
| 600 Steam Refined | 22½-23 | 21 -21½ | -19¾ |
| 635 Steam Refined | -27 | 25¼-26 | 24½-25 |
| 650 Steam Refined | 28¼-29 | 27 -27½ | 26 -26¼ |
| 600 Flash | 33 -34 | 31 -32 | -30 |
| 600 Warren E | -26 | 24¾-25 | 23½-24 |
| 600 Oil City E | -24 | -23 | 22½-23 |
| 600 Filtered D | -31 | -30 | -30 |
| Cold Test Stocks (bright filtered) | 37 -38 | -36 | -36 |
| Cold Test Stock (dark filtered) | 35 -36 | -34 | -34 |
| Black Oil | - 8 | - 7½ | - 7 |

Note.—Prices of total immersion test goods average 1 cent per gallon higher

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

64 GRAVITY (375-385) END POINT

Best Gasoline for

COLD WEATHER

Marketers Wire for Prices NOW

"A Barrel of Gasoline a Minute"

Clayton Oil & Refining Company

Dallas, Texas



*The White Eagle Oil & Refining Co. have a large number of Brown Certified truck tanks in their service.*

**Complete Line of Oil Equipment**

Storage Tanks
Truck and Tractor Tanks
Underground Tanks
Viking and Meyers Pumps
H. S. H. Valves and Fittings
Curb Pumps
Oil Burner Tanks
Fuel Oil Equipment

*Complete Blue Print Service*

Our Own Construction Crews

Two Large Plants Insure Prompt Shipment

# BROWN SHEET IRON & STEEL COMPANY

**1000 Berry Ave., ST. PAUL, MINN.**

# Refinery Markets On Wax And Heavy Oil Products

**Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California**

## WAX

| PENNSYLVANIA | Prices Dec. 1 | Prices Nov. 24 | Prices Nov. 17 |
|---|---|---|---|
| | (Per Pound New York) | | |
| 122-124 White Crude Scale | 5¼- 5¾ | 5¼- 5¾ | 5¼- 5¾ |
| 124-126 White Crude Scale | - 5¾ | 5¾- 5¾ | - 5¾ |
| **OKLAHOMA** | | | |
| | (Per Pound Group 3) | | |
| 124-126 White Crude Scale | 4¾- 5 | 5 - 5¼ | 4¾- 5¼ |
| **CALIFORNIA** | | | |
| White Crude Scale | 7¼- 8 | 7¼- 8 | 7¼- 8 |

## FUEL OIL

| | | | |
|---|---|---|---|
| **PENNSYLVANIA** | | | |
| 36-40 Fuel Oil | 6 - 6¼ | 5¾- 6 | - 5¾ |
| 30-34 Fuel Oil | 5½- 5¾ | 5¾- 5¾ | 5¼- 5¾ |
| **OKLAHOMA** | | | |
| 38-40 Straw distillate | 3½- 3¾ | 3½- 3¾ | 3½- 3¾ |
| 36-38 Straw distillate | 3¼- 3½ | 3¼- 3½ | 3¼- 3½ |
| 32-36 Gas oil | 3 - 3½ | 2¾- 3 | 2¾- 3 |
| 28-30 Fuel oil (Bbl.) | 1.15-1.20 | 1.10-1.12½ | 1.10-1.15 |
| 24-26 Fuel oil (Bbl.) | 1.12½-1.15 | 1.05-1.07½ | 1.05-1.07½ |
| 24-26 Fuel oil (Buyers' cars) | 1.10-1.15 | 1.05-1.07½ | 1.05-1.07½ |
| 20-22 Fuel oil (Bbl.) | 1.10-1.12½ | -1.05 | 1.02½-1.05 |
| **NORTH TEXAS** | | | |
| 38-40 Straw Distillate | 3¼- 3¾ | 3½- 3¾ | 3½- 3¾ |
| 32-36 Gas Oil (Gal.) | 3 - 3¼ | 2¾- 3 | 2¾- 2¾ |
| 24-26 Fuel, per bbl | -1.15 | 1.02½-1.05 | 1.00-1.05 |
| **GULF COASTAL** | | | |
| Fuel | 1.60-1.75 | 1.60-1.75 | 1.60-1.75 |
| Gas Oil | 4½- 4¾ | 4½- 4¾ | 4½- 4¾ |
| **NORTH LOUISIANA** | | | |
| 32-36 Gas Oil (Gal.) | 3¼- 3½ | 3¼- 3½ | 3¼- 3¼ |
| 20-24 Fuel Oil (Bbl.) | 1.05-1.10 | 1.00-1.05 | .95-1.05 |
| **ARKANSAS** | | | |
| 38-40 Distillate | 3½- 3¾ | 3½- 3¾ | 3½- 3¾ |
| 32-36 Gas Oil | 3 - 3¼ | 3 - 3¼ | 3 - 3¼ |
| 20-24 Refinery Fuel Oil (Bbls.) | 1.05-1.10 | 1.05-1.10 | 1.05-1.10 |
| Smackover Crude Fuel (Bbls.) | -1.15 | .95-1.00 | 95 -1.00 |
| East Field Crude Fuel (Bbls.) | -1.15 | .95-1.00 | 95 -1.00 |
| **CALIFORNIA** | | | |
| 14-18 Fuel Oil (Bbl.) | 1.40 | 1.40 | 1.40 |
| 14-18 Bunker Oil (Bbl.) | 1.40 | 1.40 | 1.40 |
| 24-30 Gas Oil (Bbl.) | 1.65 | 1.65 | 1.65 |
| 27 + Diesel Oil (Bbl.) | 1.65 | 1.65 | 1.65 |

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

(Continued from page 97)

on the hands of even the smallest refiners in the Mid-Continent. Stocks on hand are low, a fact that is shown by the current Mid-Continent refinery statistical report of this publication which covered the operations of 112 companies in this area for the week ended Nov. 21. The report shows that the combined gasoline stocks of the group totaled but 38,421,921 gallons while shipments for the week were 22,512,382 gallons.

Although 22 more refineries were included in this report as compared with the initial survey on Nov. 14, there was little change in the level of gasoline stocks reported. Stocks at the end of the week still represented only 12 days supply at the rate of shipments maintained during the week. Stocks at Kansas plants were 5,737,722 gallons while shipments during the week were 5,976,730 gallons. This is a more extreme situation than exists in any other part of the field but it serves to show how nearly refiners are operating on a hand to mouth basis.

### Natural Gasoline Strong

The last week in November has also been featured by further advances in natural gasolines. Trading during the week has been largely for December delivery since there has been very little material available for spot sales during the week. Quotations for December vary widely. One manufacturer is quoting as high as 9¾ cents on Grade A while sales have actually been made as high as 9¼ cents over the month. Grade B is selling for future delivery at 8¾ to 9 cents and grade C at 8½ to 8¾ cents per gallon.

Manufacturers of natural gasoline will go into December with their tanks bare and with a fair proportion of their goods sold in advance. Due to the relatively high prices for straight run gasoline as compared with the tank wagon structure manufacturers are looking for an increase in demand for blended gasolines in December. They, likewise, look forward to an enlarged outlet in the Mid-Continent in case export buying becomes more active.

### Kerosene Slow

While weather conditions are becoming more favorable for consumption of home heating distillates and, to a certain extent, kerosene, there has been no large increase in demand from domestic customers. One export order of consequence was placed this week. The Texas Co. ordered 115 carloads at a price reported to be 4½ cents per gallon. This purchase supplements a former order for 100 car loads placed with one large refiner earlier in November. This oil is to be moved promptly to Port Arthur for export.

While some kerosene is available at 4⅜ cents per gallon the bulk of the 41-43 gravity grade is selling at 4½ cents. There has been no substantial change in prices for several weeks. Distillates continue to move at 3¼ to 3¾ cents per gallon.

### Lubricating Oils

Steam refined cylinder stocks continue to be the strongest items quoted among Mid-Continent lubes. Industrial users are buying fair quantities of 600 steam refined and export buyers are quite active.

One broker announced a sale of 10,000 barrels of western cylinder stocks for export this week. A large part of this oil was in storage at export terminals but the broker bought around 20 cars in the Mid-Continent to supplement the goods he took over at the seaboard. Export buying has caused some 600 olive green to sell as high as 8 cents per gallon and nearly every refiner in the field has raised his price ¼ to ½ cent per gallon. Bright stocks are in good demand but neutrals are quiet.

Wax has sold at slightly lower prices during the past week. One exporter was able to buy two fairly large consignments at 4¾ cents per gallon while odd cars for immediate shipment are reported to have sold ⅛ to ¼ higher.

Fuel oil has been participating in a bull movement almost as active as gasoline during the last few days. Advance buying for December delivery has been heavy and refiners have had no difficulty in obtaining higher prices. Early in the week some low gravity fuel was sold at $1.05 to $1.07½ per barrel while today it is scarce at $1.07½ and sales have been made at five cents per barrel more. Full 24-26 gravity fuel is bringing as high as $1.15 per barrel in Group 3, and at Kansas refineries there has been a substantial movement at $1.25 per barrel.

Gas oil buying on the part of gas companies has been good and it is becoming more and more difficult to buy at less than 3 cents per gallon even on dark colored material.

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### Service Station Has Parking Space

AKRON, O., Nov. 29.—The Akron Oil Co., of which R. C. Witwer is president and general manager, now operates 20 service stations and supplies about 30 stations in and around Akron. The company expects to sell about 4,000,000 gallons of gasoline, motor oils and kerosene this year. A service station which was recently acquired by the company, will have parking space adjoining it, with a capacity for 30 cars.

The present company bought the old Akron Oil Refining Co., which failed in July, 1922, and was sold at receivers' sales to the American Petroleum Products Co. of Cleveland in December, 1922. Four months later it was again sold to the present Akron Oil Co.

# Strong Market And Winter Weather Reach Chicago Together

CHICAGO, Nov. 29.—A bull market, almost unprecedented for the season, kept the Chicago oil trade busy during the closing days of this week. On Friday after Thanksgiving the market for U. S. Motor gasoline performed as it does sometimes after a sunny Memorial day. Holiday driving must have made an appreciable dent in jobbers' supplies over all of the middle west because there was no part of Chicago's trade territory not represented in the scramble for new supplies.

Jobbers' margins are narrow in many parts of Standard Oil Co. of Indiana territory and probably jobbers' buying is partly prompted by the belief that a tank wagon price advance is imminent, but the volume of material moved over the week indicates that the distributors had some empty storage. By Friday night 8½ cents was the going price of U. S. Motor gasoline and on Saturday some of the leading refiners revised their quotations to 8¾ cents.

Kerosene prices have been slightly improved over the week but only slightly for small quantities of 41-43 kerosene are still available at 4½ cents. Kerosene of 42-44 gravity was not obtainable under 4¾ cents and refiners with confidence in the market were not pressing it at that figure, believing it soon would be firm at 5 cents, or that its present condition might invite some exporter to enter the market and relieve the storage generally as so often happens when kerosene and straw distillate prices get too close.

Better grades of distillates, lacking, however, the treatments given kerosene, were moved this week for 4 cents and 3¾ cents was the bottom figure. Gas oil also showed strength at 3¼ cents. Certain farming towns around Chicago where oil burner salesmen worked last summer, came into the market this week with urgent demands for oil fuel that had to be supplied in some cases by unloading from tank car to tank wagon, there being no fuel storage in the towns.

Fuel oil took one more turn for the better, and major dealers announced a low price of $1.15 on 24-26 late this week. In view of the fact that the highest grade of Oklahoma crude oil has a posted price of $1.25 at the well, this fuel oil quotation is approaching its limit for peace-time markets. Several dealers were quoting fuel over December at $1.20 but sales were light.

# Pennsylvania Markets Are Unsettled As Result Of Crude Embargo

CLEVELAND, Dec. 1.—Embargo on crude oil except where shipping or delivering orders accompanying tenders which became effective today on National Transit Co. lines, has unsettled the northwestern Pennsylvania refinery markets. Prices have advanced steadily over the last week with only a relatively small amount of any product available for spot delivery. Lubricating oils were almost impossible to obtain at any price and refiners' quotations were largely nominal.

Refiners are in doubt as to the effect the embargo will have. Few producers are equipped to store their own crude, and it naturally seems that more crude would soon be on the market than at any time this fall. This would permit refiners to increase their runs to stills and cover some of the orders that are going from plant to plant in hope that some refiner might see his way ahead far enough at least to promise a shipment at some future time. An advance in the posted price of crude would cause prices to accelerate their upward movement.

Buyers during the last week were fairly clamoring for steam refined cylinder stocks and neutrals but little of any grade was to be had. Prices have turned up sharply. Bright stocks are also higher, and today one refiner was quoting 40 cents per gallon on the regular cold settled grade. This price was 1 to 2 cents higher than other leading makers of bright stocks were asking.

A broker was reported to have offered several carloads of 600 E filtered stocks at 23 cents, a price on a level with the quotations of some of the larger refiners for 600 steam refined and ½ cent below the asking price of others. The only explanation was that the broker had bought the filtered stocks some time ago and thought the present was a good time to take his profit.

Fuel oil also has advanced, and demand is brisk. While some refiners are selling 36-40 at 6 cents, others are firm in their demand for 6¼ and say they are getting it. Quotations on 30-34 were ½ cent lower. One refiner who gets a 28-30 residue from his cracking stills was quoting 5½ cents per gallon on that.

Gasoline demand has held up fine and no stocks are held by any plants. Heavy snows which fell Saturday night and Sunday may reduce demand but should not cause any serious weakening of prices at present because some refiners are having a hard time to meet the requirements of their regular customers or their own filling stations. Opinion was expressed today that the embargo may cause an easing in the gasoline market if crude is forced out of producers' hands, but this refiner qualified his assertion by saying he was regarded as a bad guesser.

There is virtually no change in the wax situation. A few makers have part of their production for immediate shipment but most are still sold up.

### Kentucky

Kentucky gasoline prices are ¼ to ¾ cent higher than a week ago. Demand has been good for the season. Kerosene, gas oil and fuel oil are all stronger. Prices at central Kentucky plants today were: 58-60 gasoline, 10¼; 60-62, 11¼; 62-64, 12; 64-66, 12¾; 66-68, 13, and 68-70, 13¼. Kerosene, 42-44 water white, 7; gas oil 5¼, and 24-26 fuel oil 4¼.

# Heavy Export Buying In N. Texas Market

WICHITA Falls, Nov. 29.—Lively demand for 64-66, end point gasoline for export movement during the past week is bringing about a change in the method of operation of north Texas refineries. Several important plants have discontinued cutting U. S. Motor gasoline, except in small amounts for regular customers, and are devoting their entire energy to the production of export goods.

Buying of the past week has assured many refiners of an outlet for a large part of their gasoline production during December. This has served to give refiners more confidence in advancing their current quotations.

There has been considerable speculation in U. S. Motor gasoline on the part of carload marketers. One buyer is reported to have contracted to take between 300 and 400 cars of Motor during December at 8 cents per gallon and upwards. It is stated that but little of this gasoline has been sold direct to the trade as yet.

Motor gasoline for immediate shipment is extremely scarce and prices have been advancing daily. General quotations today are 8½ cents per gallon with little or none available at less than that figure. The supply of 58-60, 450 is likewise low and selling it is reported at 8¼ to 8½ cents.

Kerosene has shown more strength than at any time in recent weeks. There is no more 41-43 gravity kerosene available at 4¼ cents per gallon, trading being generally at 4⅜ to 4½ cents per gallon. Distillates have been in better demand at unchanged prices.

Gas oil is firm at 3 cents per gallon, a gain of ⅛ cent over last week. Fuel oil has been looking up also with sales being made at $1.10 per barrel. Today several refiners are asking $1.15 but little has been sold at this higher figure as yet. Early in the week several sales were made at $1.05 per barrel for shipment north in competition with Oklahoma.

Refiners are generally optimistic about December prices and are holding back on their sales.

# Tank Wagon, Service Station Markets
## Gasoline and Kerosene

BELOW are given in cents a gallon, the tank wagon price of gasoline without the special taxes levied against motor fuels by many states, the amount of the state taxes, the total tank wagon price, with tax added in and the service station or retail price of gasoline as quoted by the Standard Oil Companies in their various marketing territories. The right hand column is the tank wagon price of kerosene. By tank wagon price is meant the price to resale agents or dealers. Usually this price does not apply to sales to consumers from tank wagons.

**Prices in effect December 1**

### S. O. NEW JERSEY TERRITORY

| | Gasoline T.W. | Tax | Total | Oil S.S. | T.W. |
|---|---|---|---|---|---|
| Atlantic City, N. J. | 13.5 | 0 | 13.5 | 15.5 | 13 |
| Newark, N. J. | 13.5 | 0 | 13.5 | * | 13 |
| Annapolis, Md. | 13 | 2 | 15 | * | 12 |
| Baltimore, Md. | 13 | 2 | 15 | 17 | 11 |
| Cumberland, Md. | 13 | 2 | 15 | 17 | 12.5 |
| Washington, D. C. | 14 | 2 | 16 | 18 | 12.5 |
| Danville, Va. | 14 | 3 | 17 | * | 13.5 |
| Norfolk, Va. | 14 | 3 | 17 | 19 | 13.5 |
| Richmond, Va. | 14 | 3 | 17 | 19 | 13.5 |
| Roanoke, Va. | 14 | 3 | 17 | 19 | 13.5 |
| Petersburg, Va. | 14 | 3 | 17 | * | 13.5 |
| Charleston, W. Va. | 14 | 2 | 16 | 18 | 13.5 |
| Clarksburg, W. Va. | 14 | 2 | 16 | 18 | 13.5 |
| Keyser, W. Va. | 13 | 2 | 15 | * | 13.5 |
| Parkersburg, W. Va. | 14 | 2 | 16 | 18 | 13.5 |
| Wheeling, W. Va. | 14 | 2 | 16 | 18 | 13.5 |
| Williamson, W. Va. | 14 | 2 | 16 | * | 13.5 |
| Charlotte, N. C. | 12 | 3 | 15 | 17 | 13.5 |
| Hickory, N. C. | 12 | 3 | 15 | * | 13.5 |
| High Point, N. C. | 12 | 3 | 15 | * | 13.5 |
| Mt. Airy, N. C. | 12 | 3 | 15 | * | 13.5 |
| Salisbury, N. C. | 12 | 3 | 15 | * | 13.5 |
| Charleston, S. C. | 12.5 | 3 | 15.5 | 17.5 | 14 |
| Columbia, S. C. | 12.5 | 3 | 15.5 | 17.5 | 14 |

*Dealers set own prices. S. O. New Jersey does not operate station.

### S. O. NEW YORK TERRITORY

| | | | | | |
|---|---|---|---|---|---|
| *New York City | 15 | 0 | 15 | 18 | 13 |
| Albany, N. Y. | 15 | 0 | 15 | 17 | 13 |
| Buffalo, N. Y. | 14 | 0 | 14 | 17 | 13 |
| Rochester, N. Y. | 15 | 0 | 15 | 19 | 13 |
| Syracuse, N. Y. | 15 | 0 | 15 | 17 | 12 |
| Boston, Mass. | 15 | 0 | 15 | 18 | 12 |
| Augusta, Me. | 15 | 1 | 16 | 18.5 | 13 |
| Manchester, N. H. | 15 | 2 | 17 | 19.5 | 13 |
| Burlington, Vt. | 15 | 1 | 16 | 18.5 | 13 |

*In steel barrels.

### ATLANTIC REFINING TERRITORY

| | | | | | |
|---|---|---|---|---|---|
| Pittsburgh, Pa. | 14 | 0 | 14 | 19* | 14 |
| Philadelphia, Pa. | 14 | 0 | 14 | 19* | 14 |
| Allentown, Pa. | 14 | 0 | 14 | 19* | 14 |
| Erie, Pa. | 14 | 0 | 14 | 19* | 14 |
| Scranton, Pa. | 14 | 0 | 14 | 19* | 14 |
| Altoona, Pa. | 14 | 0 | 14 | 19* | 14 |
| Dover, Del. | 14 | 2 | 16 | 19 | 14 |
| Wilmington, Del. | 14 | 2 | 16 | 19 | 14 |
| Providence, R. I. | 15 | 0 | 15 | 18 | 13 |
| Springfield, Mass. | 15 | 0 | 15 | 18 | 13 |
| Worcester, Mass. | 15 | 0 | 15 | 18 | 13 |
| Hartford, Conn. | 15 | 1 | 16 | 19 | 12 |
| New Haven, Conn. | 15 | 1 | 16 | 19 | 13 |
| Boston, Mass. | 15 | 0 | 15 | 18 | 11 |

*Contains 2-cent tax collected by retail dealer and paid by him directly to state.

### S. O. OHIO TERRITORY

| | | | | | |
|---|---|---|---|---|---|
| All Ohio points | 15 | 0 | 15 | 17 | 14 |

### S. O. KENTUCKY TERRITORY

| | | | | | |
|---|---|---|---|---|---|
| Lexington, Ky. | 13 | 3 | 16 | 19 | 14 |
| Louisville, Ky. | 12 | 3 | 15 | 17 | 12 |
| Covington, Ky. | 12 | 3 | 15 | 18 | 14 |
| Clarksdale, Miss. | 12 | 3 | 15 | 18 | 12 |
| Jackson, Miss. | 12 | 3 | 15 | 18 | 10 |
| Natchez, Miss. | 11.5 | 3 | 14.5 | 17.5 | 11.5 |
| Vicksburg, Miss. | 11.5 | 3 | 14.5 | 17.5 | 11.5 |
| Birmingham, Ala. | 13 | 2 | 15 | 18 | 14.5 |
| Mobile, Ala. | 12 | 2 | 14 | 17 | 12.5 |
| Montgomery, Ala* | 14 | 2 | 16 | 19 | 15.5 |
| Atlanta, Ga. | 14 | 3 | 17 | 20 | 13 |
| Augusta, Ga. | 14 | 3 | 17 | 20 | 13.5 |
| Macon, Ga. | 14 | 3 | 17 | 20 | 14.5 |
| Savannah, Ga. | 11 | 3 | 14 | 17 | 13 |
| Jacksonville, Fla. | 12 | 3 | 15 | 18 | 13 |
| Miami, Fla. | 14 | 3 | 17 | 20 | 14.5 |
| Tampa, Fla. | 12 | 3 | 15 | 18 | 13 |
| Pensacola, Fla. | 12 | 3 | 15 | 18 | 13.5 |

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

### S. O. CALIFORNIA TERRITORY

| | | | | | |
|---|---|---|---|---|---|
| Phoenix, Ariz. | 18 | 3 | 21 | 24 | 21.5 |
| Los Angeles, Cal. | 11.5 | 2 | 13.5 | 16.5 | 15.5 |
| Fresno, Cal. | 13.5 | 2 | 15.5 | 18.5 | 17.5 |
| San Francisco, Cal. | 13 | 2 | 15 | 18 | 15.5 |
| Reno, Nev. | 16.5 | 2 | 18.5 | 21.5 | 19 |
| Portland, Ore. | 13 | 3 | 16 | 19 | 16.5 |
| Seattle, Wash. | 13 | 2 | 15 | 18 | 16.5 |
| Spokane, Wash. | 17 | 2 | 19 | 22 | 20.5 |
| Tacoma, Wash. | 13 | 2 | 15 | 18 | 16.5 |

### S. O. LOUISIANA TERRITORY

| | Gasoline T.W. | Tax | Total | Oil S.S. | T.W. |
|---|---|---|---|---|---|
| Camden, Ark. | 14 | 4 | 18 | 20 | 13 |
| Little Rock, Ark. | 13 | 4 | 17 | 19 | 11 |
| West Helena, Ark. | 14 | 4 | 18 | 20 | 12 |
| Alexandria, La. | 12.5 | 2 | 14.5 | 16.5 | 13 |
| Baton Rouge, La. | 11 | 2 | 13 | 15 | 11.5 |
| Lake Charles, La. | 12.5 | 2 | 14.5 | 16.5 | 13 |
| New Orleans, La. | 11.5 | 2 | 13.5 | 15.5 | 10 |
| Shreveport, La. | 12.5 | 2 | 14.5 | 16.5 | 13 |
| Bristol, Tenn. | 15 | 2 | 17 | 19 | 13.5 |
| Chattanooga, Tenn. | 13 | 2 | 15 | 17 | 14.5 |
| Knoxville, Tenn. | 14.5 | 2 | 16.5 | 18.5 | 15 |
| Nashville, Tenn. | 13.5 | 2 | 15.5 | 17.5 | 15.5 |
| Memphis, Tenn. | 12 | 2 | 14 | 16 | 14 |

### MAGNOLIA PETROLEUM TERRITORY

| | | | | | |
|---|---|---|---|---|---|
| Muskogee, Okla. | 11.5 | 2½ | 14 | 19 | 11 |
| Oklahoma City | 11.5 | 2½ | 14 | 17 | 11 |
| Tulsa, Okla. | 11.5 | 2½ | 14 | 17 | 10 |
| Fort Smith, Ark. | 11 | 4 | 15 | 18 | 12 |
| Little Rock, Ark. | 13 | 4 | 17 | 19 | 11 |
| Texarkana, Ark. | 12 | *4 | 16 | 19 | 10 |
| Dallas, Tex. | 9 | 1 | 10 | 13 | 10 |
| El Paso, Tex. | 11 | 1 | 12 | 14 | 11 |
| Fort Worth, Tex. | 9 | 1 | 10 | 12 | 10 |
| Houston, Tex. | 9 | 1 | 10 | 14 | 10 |
| San Antonio, Tex. | 9 | 1 | 10 | 12 | 10 |

*Within city of Texarkana, Ark., the state tax on gasoline is 1c per gal. conforming with the Texas state tax In Texarkana district outside of the city, the 4c state tax applies.

### S. O. INDIANA TERRITORY

| | | | | | |
|---|---|---|---|---|---|
| Chicago, Ill. | †14 | 0 | †14 | 16 | 11 |
| Decatur, Ill. | 13.2 | 0 | 13.2 | 15.2 | 11.5 |
| E. St. Louis, Ill. | 12.1 | 0 | 12.1 | 14.35 | 10.6 |
| Joliet, Ill. | 13.4 | 0 | 13.4 | 15.4 | 11.7 |
| Peoria, Ill. | 13 | 0 | 13 | 15 | 11.5 |
| Quincy, Ill. | 13.2 | 0 | 13.2 | 15.2 | 11.3 |
| Indianapolis, Ind. | 13.2 | 2 | 15.2 | 17.2 | 11.7 |
| Evansville, Ind. | 13 | 2 | 15 | 17 | 11.5 |
| South Bend, Ind. | 13.4 | 2 | 15.4 | 17.4 | 11.9 |
| Detroit, Mich. | 13.8 | 0 | 13.8 | 15.8 | 12.2 |
| Grand Rapids, Mich. | 13.7 | 0 | 13.7 | 15.7 | 12.1 |
| Saginaw, Mich. | 13.9 | 0 | 13.9 | 15.9 | 12.3 |
| Madison, Wis. | 13.3 | 0 | 13.3 | 15.3 | 11.5 |
| Milwaukee, Wis. | 13.1 | 0 | 13.1 | 15.1 | 11.3 |
| La Crosse, Wis. | 14.2 | 0 | 14.2 | 16.2 | 12.4 |
| Minneapolis, Minn. | 14.2 | 0 | 14.2 | 16.2 | 12.6 |
| Duluth, Minn. | 14.5 | 0 | 14.5 | 16.5 | 12.6 |
| Mankato, Minn. | 14.1 | 0 | 14.1 | 16.1 | 12.4 |
| Des Moines, Iowa. | 13.5 | 0 | 13.5 | 15.5 | 11.9 |
| Davenport, Iowa. | 13.5 | 0 | 13.5 | 15.5 | 11.9 |
| Sioux City, Iowa. | 13 | 0 | 13 | 15 | 11.5 |
| Mason City, Ia. | 13.5 | 0 | 13.5 | 15.5 | 11.9 |
| St. Louis, Mo. | 12.1 | ½ | 12.6 | 14.9 | 11 |
| Kansas City, Mo. | 12.9 | 1 | 13.9 | 15.9 | 10.3 |
| St. Joseph, Mo. | 12.5 | ½ | 13 | 15 | 10.9 |
| Fargo, N. D. | 14.9 | 1 | 15.9 | 17.9 | 14.6 |
| Grand Forks, N. D. | 15.1 | 1 | 16.1 | 18.1 | 14.9 |
| Minot, N. D. | 15.9 | 1 | 16.9 | 18.9 | 14.6 |
| Pierre, S. D. | 15 | 2 | 17.0 | * | 13.1 |
| Huron, S. D. | 15 | 2 | 17.0 | 19.0 | 13.1 |
| Wichita, Kans. | 12.8 | 0 | 12.8 | 14.8 | 9.8 |
| Bartlesville, Okla. | 11.9 | 2½ | 14.4 | 16.4 | 9.9 |

†Dumps of 100 or more gallons at 13c per gallon.
*S. O. Indiana does not operate station.

### S. O. NEBRASKA TERRITORY

| | | | | | |
|---|---|---|---|---|---|
| Crawford, Neb. | 14 | 0 | 14 | * | 12.25 |
| Omaha, Neb. | 11 | 0 | 11 | 13 | 11.5 |
| McCook | 14.75 | 0 | 14.75 | 16.75 | 13 |
| Norfolk | 13.75 | 0 | 13.75 | 15.75 | 12 |
| North Platte | 14.75 | 0 | 14.75 | 16.75 | 12.75 |
| Scotts Bluff | 14.25 | 0 | 14.25 | 16.25 | 12.25 |

*Standard has no service station here.

### CONTINENTAL OIL TERRITORY

| | | | | | |
|---|---|---|---|---|---|
| Denver, Colo. | 12 | 2 | 14 | 16 | 13.5 |
| Glenwood Sp'gs, Colo. | 18 | 2 | 20 | * | 17.5 |
| Pueblo, Colo. | 14 | 2 | 16 | 18 | 13.5 |
| Basin, Wyo. | 16 | 1 | 17 | * | 14 |
| Casper, Wyo. | 14 | 1 | 15 | 17 | 12 |
| Cheyenne, Wyo. | 15.5 | 1 | 16.5 | 18.5 | 13.5 |
| Cody, Wyo. | 17 | 1 | 18 | * | 15 |
| Lander, Wyo. | 16 | 1 | 17 | * | 14 |
| Sheridan, Wyo. | 18 | 1 | 19 | 21 | 16 |
| Billings, Mont. | 16.5 | 2 | 18.5 | 20.5 | 14.5 |
| Butte, Mont. | 18 | 2 | 20 | 22 | 15 |
| Great Falls, Mont. | 18 | 2 | 20 | 22 | 16 |
| Helena, Mont. | 18 | 2 | 20 | 22 | 16 |
| Miles City, Mont. | 17.5 | 2 | 19.5 | 21.5 | 15.5 |
| Missoula, Mont. | 19 | 2 | 21 | 23 | 16 |
| Ogden, Utah | 17.5 | 2½ | 20 | 22 | 17 |
| Salt Lake City, Utah | 17.5 | 2½ | 20 | 22 | 17 |
| Boise, Ida. | 19.5 | 2 | 21.5 | 23.5 | 19 |
| Idaho Falls, Ida. | 19 | 2 | 21 | 23 | 18.5 |
| Albuquerque, N. M. | 18 | 1 | 19 | 21 | 15.5 |

*Continental has no service stations at these points.

## Gulf Coastal Lubes Are Stronger

HOUSTON, Dec. 1.—Stiffening prices in Gulf Coastal lubricant markets reflect steady demand from jobbers and reduction of finished oil stocks at plants in the Houston district. New maximum prices show change but ranges are smaller in many instances, the low being within ½ cent of the high whereas often the range is 1 cent. In only a few cases are manufacturers long on any grades and even then this condition generally applies to a single company as against well sold up situation with others. Keen & Woolf Oil Co. reports increase in barreling business for jobber outlets, this company putting on night crew for first time to take care of that business.

## Benzol Is Easier

By Special Correspondent

NEW YORK, Dec. 1.—Stocks of benzol are now fully capable of taking care of current requirements, in fact they are heavier than for several months back. Prices were a shade easier but the trade does not look for any important revisions until after Jan. 1.

Many of the larger consumers who have been experiencing difficulty in securing supplies for some time back, say that they now find no trouble in getting all they want. Production is gaining steadily while consumption of motor and most other descriptions of benzol is showing a slight, but steady decrease from week to week.

The improvement in the steel industry has led the operation of numerous coke ovens that have been more or less idle for many weeks. Coke production is gaining steadily, and, naturally, benzol output shows a similar increase.

### New England Refinery Prices

Following are prices at which the bulk of refined products is moving from the three Independent refineries on the New England seaboard, in tank car lots, f. o. b. refinery as of Dec. 1.

| | |
|---|---|
| U. S. Motor gasoline (gal.) | 10 |
| 30-32 gas oil (gal.) | 5½ |
| Fuel oil (bunker C grade) bbl. | 1.80 |
| 40-43 Kerosene | 7⅛ |

ST. JOE, MICH., Nov. 28.—The new service station of the Roxana Petroleum Corp. which opened recently at Mishawaka, Ind., sold over 5000 gallons of gasoline during the opening day, according to F. J. France, of the St. Joe, Mich., agency of the Roxana.

COMMERCE, TEX., Nov. 29.—The Independent Oil Co. has just opened its new filling station here, according to Jess A. Erwin, owner.

# Complete Export Markets

**New York** **Gulf Coast** **California**

## Prices Advancing In New York Export Market On Nearly All Products

By Special Correspondent

NEW YORK, Dec. 1

FEATURING the local export market was the announcement on Friday, by leading refiners, of an advance of ¾ cent a gallon in the export price of naptha in cargo lots, to 14 cents while 64-66 and 66-68 were advanced ½ cent to 15 and 16½ cents respectively. Heavy export buying in the Gulf district during the past few weeks, has created something of a shortage in these parts and not a great deal is available.

There was a good movement in cased gasoline, but no cargo sales were recorded. The majority of orders for cased goods, emanated from South America and the west coast of Africa, a few good-sized inquiries were received from Spain but actual demand from this quarter was disappointing. Most of the orders received were for around 5000 cases for January-February shipment.

U. S. Motor in single tank cars, at the refinery was held at 10¼ cents a gallon, but in bulk to the export trade, 10 cents could have been done in one or two directions. This is ½ cent a gallon below the New Orleans price. Domestic demand is somewhat better than usual for this time of the year, and the continued strength in tank wagon prices, has tended to stimulate foreign interest.

Kerosene was firmer, and local refiners are asking 7¼ cents a gallon for water white at local refineries, and 8¼ cents a gallon delivered to the trade in tank cars. German and British buyers have been inquiring in a more spirited way while there is a good movement on old contracts, which tends to keep stocks down. There have been some good-sized inquiries from the Far East, but demand from this source was rather disappointing.

However, there is a steady contract movement to both Japan and China, Scandinavian buyers have been inquiring for two cargoes of straight kerosene, but it is believed that this business will be booked by a large Independent at the Gulf.

Bunker oil was advanced 5 cents a barrel, to $1.80 f. o. b. New York harbor refinery by the Standard Oil Co. of New Jersey, and the other leading refiners also met this price by the end of the week. Demand for bunker oil is much better and refiners are not anxious to contract very far ahead at the new price. Export inquiries have been slightly more numerous but actual demand from the other side is lagging. Diesel oil also registered a 10-cent gain, early in the week. Local factors are now demanding $2.10 per barrel, f.o.b. New York harbor refinery. The demand for this oil is steadily increasing. Furnace oil was firm. Domestic buying has been along generous lines, and for 37-40 the asking price was well held at 5½ cents a gallon at the refinery.

Gas oil was steady and no price fluctuations were recorded, regardless of the advances in the Gulf markets. Foreign buyers are purchasing more sparingly, and no sizable export sales were reported However, domestic demand is heavy, and 36-40 is well held at 5 cents a gallon while 28-34 is quoted unchanged at 4¾ cents a gallon.

The list of lubricants were steady with the exception of Pennsylvania 600 s. r. Quite a little of this oil was offered for resale, and as a result business could have been done at 27½ cents a gallon, in barrels, New York. However, it is expected that this oil will be quickly absorbed and none of the big refiners are accepting business below 28½ to 30 cents a gallon, New York. Export inquiries were more numerous but in view of the appearance of resale oil some of the foreign consumers took this as a sign of an impending break, and held off. However, demand for cylinder stocks in general was a little better than a week ago, and the majority of refiners are very confident of the future.

Spindle oil is moving in a light, spasmodic way. Paraffin oils were steady but quiet.

The list of waxes was steady and no important price fluctuuations developed. For 122-124 A.m.p., white crude scale wax the price was well maintained at 5¼ to 5½ cents a pound while fully refined waxes were steady on a basis of 5¾ cents for 118-122 A.m.p. Match,

## New York Export Market

**Prices below are averages of actual sales by local exporting Agencies**

**The following light oil, gas and fuel oil prices are F. O. B. New York refineries, being Products made from Domestic (including California) and Mexican Crudes.**

| | Dec. 1 | Nov. 24 |
|---|---|---|
| U. S. Motor Gasoline, Tank Cars Delivered | 11¼ | -11 |
| U. S. Motor Gasoline, Tank Cars Bayonne | -10¼ | 09¾-10 |
| Kerosene, 45-150 W W Tank, Cars Del'd | .08¼ | .08¼ |
| Grade C Bunker, f.o.b.N.Y. | 1.80 | 1.75 |
| Diesel Oil f.o.b. Refinery | 2.10 | 2.00 |
| Gas Oil, 36-40, Bulk, refinery | .05 | .05 |

### PENNA. LUBRICATING OILS

**The following Prices are cooperage Basis F. O. B. New York, Products being manufactured by inland refineries.**

| CYLINDER OILS | Dec. 1 | Nov. 24 |
|---|---|---|
| Penna. Filtered D 600 bbls | -35½ | -35½ |
| Penna. Filtered E 600 bbls | -33½ | -33½ |
| Unfiltered 600 s.r.bbls | 27 -28 | 29 -29½ |
| Unfiltered 650 s.r.bbls | 35 -36 | 35 -36 |
| 600 flash s. r. bbls | -38 | -38 |
| Western 600 s. r. bbls | -14¾ | -14¾ |
| Bloomless 30-31 grav. bbls | -25 | -25 |
| **RED PARAFFIN (bbls.)** | | |
| 300 vis. at 100°F | 23½ | 23½ |
| 250 vis. at 100°F | 23 | 23 |
| 175 vis. at 100°F | -22½ | -22½ |
| High Viscosity Paraffin | 29 | 29 |
| 225 vis. pale 100 at 100°F | -15 | -15 |
| **SPINDLE (bbls.)** | | |
| 200 vis. Pale at 100°F | 21 | 21 |
| 180 Pale | 20 | 20 |
| 150 Pale | 17 | 17 |
| **BLACK OIL (bbls.)** | | |
| 25-30 c. t. | 14 -15½ | 14 -15½ |
| 15 c. t. | 15 -16½ | 15 -16½ |

### WAXES

**(Penna. Stocks)**

**(F. A. S. Carload Lots)**

| WHITE CRUDE SCALE | Dec. 1 | Nov. 24 |
|---|---|---|
| 122-124 A. m. p. | 05½-05¼ | 05½-05¼ |
| 124-126 A. m. p. | 05¼-05⅜ | -05⅜ |
| **MATCH** | | |
| 105-108 A. m. p. | 06 | 06 |
| 111-115 A. m. p. | 06⅛ | 06⅛ |
| **FULLY REFINED** | | |
| 118-122 A. m. p. | 05¾ | 05¾ |
| 123-125 A. m. p. | 06 | 06 |
| 125-127 A. m. p. | 06⅛ | 06⅛ |
| 128-130 A. m. p. | 06¼ | 06¼ |
| 130-132 A. m. p. | 06¾-06½ | 06¼ |
| 133-135 A. m. p. | 07⅛ | 07¼ |
| **SEMI REFINED** | | |
| 122-124 A. m. p. | 05¼ | 05¼ |
| **YELLOW CRUDE SCALE** | | |
| 124-126 A. m. p. | 05¼ | 05¼ |

### PETROLATUMS

**(Penna. Stocks)**

| | | |
|---|---|---|
| Snow White | 12¾ | 12¾ |
| Lily White | 10 | 10 |
| Cream Petroleum Jelly | 07¾ | 07¼ |
| Veterinary | 05¾ | 05¾ |
| Light Amber | 05¾ | 05¾ |
| Dark Amber | 05¾ | 05¼ |
| Dark Green | 05¼ | 05¼ |

**(Cooperage Basis)**

### MEDICINAL OILS

**(Penna. Stocks)**

| | | |
|---|---|---|
| Domestic 875-885 s. g. drums | .98 -1.05 | 1.05 |
| Domestic 865-870 s. g. drums. | 85 | 85 |
| Russian 885-890 s. g. 325-330 vis. drums | 1.25 | 1.25 |

105-108 A.m.p. was quoted at 6 cents. Yellow crude scale held steady at 5⅛ cents a pound. German buyers are after white crude scale, wax and several sales of from 50 to 100 tons were heard of during the course of the ton. Match waxes are also moving a little more freely and Italian and Scandinavian buyers are credited with the bulk of the demand.

The demand for petrolatum was spasmodic but prices were steady. For snow white, the asking price was 12¾ cents a pound while lily white was dull at 10½ cents a pound. Domestic consumption is gaining, but foreign manufacturers of toilet preparations are less inclined to purchase. Medicinal oils were steady at unchanged prices.

# Export Prices Are Firmer At Gulf Ports; Holiday Cuts Down Week's Sales

By Special Correspondent

NEW ORLEANS, Dec. 1

WHILE the aggregate turnover in local export circles was not very large last week, the tone of the market was much firmer, and several price advances were recorded. The fact that Thursday broke up the week, was held largely responsible for the restricted foreign buying.

One of the leading Independents sold a cargo of gasoline and kerosene to a large French buyer, for January shipment out of the Gulf. This sale included 17,000 barrels prime white kerosene at slightly below 6 cents; 5900 barrels of 58-60 U. S. Motor at 10¼ cents; 5900 barrels of 64-66 at 12¾ or 12⅞ cents and 11,200 barrels of 61-63 at 11 cents.

These prices were somewhat below those quoted by the leading refiners and it is doubtful if much more can be had so low.

At the close of the week, virtually all of the refiners were asking 10½ cents for U. S. Motor and 13 cents for 64-66. There was a persistent rumor current that one of the leading refiners had sold a cargo of 56,000 barrels of U. S. Motor and 64 at the above prices, for January shipment to the United Kingdom, but confirmation was lacking.

Negotiations were on at the end of the week, for the sale of a cargo of 42,000 barrels, of 64, U. S. Motor, prime and water white kerosene, to a Continental buyer, presumably with French connections, and this deal is expected to be closed early this week. The majority of refiners are reluctant to offer either grade of gasoline, as there is not much to be had.

Cased gasoline is moving better and several orders for from 10,000 to 25,000 cases appeared during the week. It is understood that a good deal of this will be shipped to northern African ports, during the first two months of next year. Cased U. S. Motor is still quoted at $2.40 per case and 64 at $2.70 but there are reports current that some of the big factors are accepting business about 5 cents below these figures, in cargo lots.

Japanese buyers have been showing a keen interest since prices began to stiffen, and it is understood that they are purchasing considerable cased gasoline for February shipment.

The movement to Australia is gaining but is largely on a contract basis. South American buyers are operating along more conservative lines and have apparently covered their immediate future requirements.

Kerosene was firmer, and prime white was steady t 6 cents while water white was quoted at 7 cents a gallon, cargo lots. There were at least five good inquiries for cargoes in the market, but on account of the holiday, none, as far as could be learned, were closed. German buyers were actively inquiring last week, while United Kingdom interests are also in the market for straight cargoes of kerosene. Domestic demand has improved considerably the past week, and there is talk current of another advance shortly.

Cased kerosene is moving in a steady way. Demand has looked up quite a little and one Independent is reported to have closed a contract for 25,000 cases to the Far East, to be shipped late in January. Chinese buyers were after cased goods while the Near East is a steadier buyer. There is a fairly large quantity being moved on consignment.

Bunker oil was much firmer at the close of the week, reflecting the heavy domestic demand for low gravity fuel oil. For domestic grade C oil, f. o. b. Tampico, refiners were asking around $1.55 to $1.60 the inside price being more generally quoted. Mexican crude was decidedly firmer, and Mexican bunker oil at New Orleans is well held at $1.50 a barrel. There is talk of an impending increase in this oil soon.

## Pacific Export Market

(Cargo lots quotations at seaboard, San Francisco Bay and Los Angeles refinery points, f.o.b. docks.)

| | Dec. 1 | Nov. 24 |
|---|---|---|
| Gasoline, U. S. Motor—54°—56° | 08½- 09½ | 08½- 09½ |
| Gasoline—U. S. Motor blends and special cuts | .09 - 10½ | 09 - 10½ |
| Gas Oil, 24°—30°B per bbl. | $1.65 | $1.65 |
| Diesel Oil, 27°B-plus per bbl. | $1.65 | $1.65 |
| Bunker Oil, 14°—18°B per bbl. | $1.40 | $1.40 |
| Fuel Oil, 14°—18°B per bbl. | $1.40 | $1.40 |
| Kerosene, W. W. 40°—42° B per gal., 125-150 flash test | .05 -06½ | 05½-06½ |
| **Cased Goods** | | |
| Gasoline, U. S. Motor | $2.50 | $2.50 |
| Kerosene, W. W. 40°—42° B per case, flash test 125-150 | $1.55- 1.65 | $1.55- 1.65 |

## N. Y. Export Quotations

Furnished by big exporting oil companies. No actual sales. Record for statistical purposes only.

**Illuminating Oils**
**Standard Oil of New Jersey**

| | Dec. 1 | Nov. 24 |
|---|---|---|
| Bulk, gal., Bayonne | 6.50 | 6.50 |
| Barrels, gal., Bayonne, cargo | 13.50 | 13.50 |
| Cases, gal., Bayonne | 16.90 | 16.90 |

Prices for water white oil (150 test) are 1 cent higher than those for standard white.

**Gasoline-Naptha**
**(Cents per Gallon)**

| | | |
|---|---|---|
| U. S. Motor, dead bulk | 12.25 | 12.25 |
| U. S. Motor, cases | 26.40 | 26.40 |
| Export Naptha bulk | 14.25 | 13.25 |
| 63-66 deg. bulk | 15.50 | 14.50 |
| 66-68 deg. bulk | 17.00 | 16.00 |

**Tide Water Oil Company**
**(f. o. b. Bayonne)**

| | | |
|---|---|---|
| 58-59 deg. bulk | 13.50 | 12.75 |
| 58-59 deg. cases | 26.40 | 26.40 |
| Export grade, U. S. Motor Specifications bulk | 12.25 | 12.25 |
| 63-65 deg. bulk | 15.00 | 14.50 |
| 68-72 deg. bulk | 17.50 | 17.00 |

| | Bulk | Barrels | Cases |
|---|---|---|---|
| Standard white 110 | 6.50 | 13.50 | 16.90 |
| Water white 150 | 7.50 | 14.50 | 17.90 |

**The Texas Company**

| | | |
|---|---|---|
| Gasoline, cases | 26.40 | 26.40 |

| Kerosene | Bulk | Barrels | Cases |
|---|---|---|---|
| Standard White | 6.50 | 13.50 | 16.90 |
| Prime White | 7.00 | 14.00 | 16.40 |
| Water White | 7.50 | 14.50 | 17.90 |

## Gulf Export Market

(Actual Sales Prices)

**Gasoline**

| | Dec. 1 | Nov. 24 |
|---|---|---|
| U. S. Motor, Bulk F.O.B. | 10¼-.10½ | -.09½ |
| 64-66, Bulk F.O.B. | -.13 | -.12½ |
| U. S. Motor, Cases (Cargo Lots) | 2.40 | 2.40 |
| 64-66, Cases (Cargo Lots) | 2.70 | 2.60 |

**KEROSENE**

| | | |
|---|---|---|
| Water White, bulk | -.07 | .06¾-.07 |
| Prime White, bulk | -.06 | -.05¾ |
| Water White, cases (Cargo Lots) | 1.70 | 1.70 |
| Prime White, cases (Cargo Lots) | 1.60 | 1.60 |

**GAS AND BUNKER OILS**

| | | |
|---|---|---|
| 26-28, gravity, bulk | 04¾-05 | 04½ |
| 32 plus, bulk | -05 | 04¾-04¾ |
| Grade C, Bunker oil (F.O.B.) | 1.55-1.60 | 1.55 |

**MEXICAN CRUDE AND BUNKER OILS**

| | | |
|---|---|---|
| *Heavy, f o b Tampico, Plus Taxes | 1.15 | 1.15 |
| Mexican Grade C, Bunker oil F.O.B. Tampico Taxes Paid | 1.40 | 1.40 |
| Mexican C, Bunker oil New Orleans | 1.50 | 1.50 |

**Lubricating Oils**

**SOUTH TEXAS**
**(In bulk cargoes of 40,000 to 50,000 bbls)**
**(Viscosity at 100°F; cold test 0)**

| | Dec. 1 | Nov. 24 |
|---|---|---|
| 100 Vis. No. 2 Unfilt. Pale | 08½ | 07½ |
| 150 Vis. No. 2½ Unfilt. Pale | 11 | 10 |
| 200 Vis. No. 3 Unfilt. Pale | 13 | 12 |
| 300 Vis. No. 3 Unfilt. Pale | 15 | 14 |
| 500 Vis. No. 3½ Unfilt. Pale | 18 | 17 |
| 750 Vis. No. 4 Unfilt. Pale | 23 | 22 |
| 750 Vis. No. 2½ Filt. Pale | 35 | 34 |
| 200 Vis. No. 5½ Red Oil | 12 | 11 |
| 300 Vis. No. 5½ Red Oil | 14½ | 13½ |
| 500 Vis. No. 6 Red Oil | 15 | 14 |
| 750 Vis. No. 6 Red Oil | 19 | 18 |

*Nominal

Heavy Panuco crude is scarce, and the price f. o. b. Tampico, plus taxes is held at $1.15 per barrel but this price is entirely nominal. For bunker oil f. o. b. Tampico, the quotation is steady at $1.40 per barrel, taxes paid.

Gas oil is strengthening and while 26-28 could have been had at around 4⅝ cents in one or two directions, most refiners were asking 5 cents, there being little available. Most of the big holders are finding all they can do in meeting their contracts and are not after new business. For 32 plus, the asking price was steady at 5 cents a gallon, although business was reported to have been put through early in the week at 4¾ cents a gallon. Export demand is lighter, as foreign buyers find they can purchase Galician oil much cheaper than domestic.

However, foreign consumers are keeping in close touch with the market over here, and numerous inquiries were received during the week.

The lubricating oils were up 1 cent a gallon, reflecting the heavier demand both from domestic and foreign consumers. Stocks are none too large and refiners are reluctant sellers at the prices listed below. There were two inquiries in the market, for cargo lots, and an unconfirmed report had it that a cargo of 40,000 barrels, of assorted lubricants had been sold by a leading Independent, for January shipment to the Continent.

Waxes were steady but quiet and no sizable movements came to light.

## Los Angeles Export Shipments Small

LOS ANGELES, Dec. 1.—One shipment of 16,950 barrels of gasoline for the Standard Oil Co. at Tacoma, Wash., and a shipment of 57,500 barrels of gasoline to Lands End, England, by the General Petroleum Corp., were the only shipments from Los Angeles harbor during the week ending Nov. 21, 1924. Small shipments of cased gasoline and kerosene have moved to Panama, Hong Kong, Shanghai, and Hawaii.

On Nov. 20 the Union Oil Co. shipped combined cargo of 27,259 barrels of fuel oil; 14,735 barrels of gasoline; 2450 barrels of kerosene and 2431 barrels of engine distillate to San Diego.

The spread of prices on export gasoline f. o. b. ships, Los Angeles harbor, remains at from 8½ to 9 cents. Export kerosene can be purchased from Los Angeles refineries at from 5 to 5½ cents in the open market. A few smaller refineries have export kerosene for sale below these figures and at the present time it might be possible for a buyer to secure sufficient quantities from several refiners to make up a cargo shipment.

However, it is not always possible to secure pipe line facilities to the seaport from these refineries in order to deliver the kerosene on board ship.

# Crude Oil Prices All Fields

### EASTERN FIELDS

| | 1924 | 1923 | | 1923 | | 1922 | |
|---|---|---|---|---|---|---|---|
| | Dec. 1 | High | | Low | | High | Low |
| Bradford-Allegany | $2.85 | Feb.15 | $4.25 | Nov.13 | $2.60 | Jan.1 $4.00 | July 19 $3.00 |
| Other Pennsylvania | 2.75 | Feb.15 | 4.00 | Nov.13 | 2.35 | Jan.1 4.00 | July 19 3.00 |
| Cabell | 1.45 | Feb.15 | 2.76 | Nov.13 | 1.20 | Jan.1 2.61 | July 19 1.86 |
| Corning | 1.50 | Feb.15 | 2.30 | Nov.14 | 1.25 | Jan.1 2.40 | July 20 1.75 |
| Somerset | 1.55 | Feb.15 | 2.55 | Nov.13 | 1.15 | Jan.1 2.40 | July 19 1.65 |
| Somerset Light | 1.70 | Feb.15 | 2.80 | Nov.13 | 1.30 | Jan.1 2.65 | July 19 1.90 |
| Ragland | .90 | Feb.15 | 1.10 | July 10 | .75 | Jan.1 1.25 | July 19 1.00 |

Somerset oil run prior to Oct. 1, 1923, takes price of 6 cents lower than above quotations.

### CENTRAL STATES FIELDS

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Wooster | $1.40 | Feb.19 | $2.50 | Nov.9 | $1.25 | Jan.1 | $2.70 | Sept.21 $1.90 |
| Lima | 1.58 | Feb.19 | 2.58 | Nov.9 | 1.43 | Jan.1 | 2.48 | July 20 1.98 |
| Indiana | 1.38 | Feb.19 | 2.38 | Nov.9 | 1.23 | Jan.1 | 2.28 | July 20 1.78 |
| Princeton | 1.37 | Feb.19 | 2.37 | Nov.8 | 1.22 | Jan.1 | 2.27 | July 20 1.77 |
| Illinois | 1.37 | Feb.19 | 2.37 | Nov.8 | 1.22 | Jan.1 | 2.27 | July 20 1.77 |
| Plymouth | .75 | Feb.19 | 1.75 | Nov.9 | .60 | Jan.1 | 1.65 | July 20 1.15 |
| Canadian Petrolia | 1.98 | Feb.19 | 2.98 | Nov.9 | 1.83 | Jan.1 | 2.88 | July 20 2.38 |

### MID-CONTINENT AND NORTH TEXAS FIELDS

| | | | |
|---|---|---|---|
| Below 30 | $ .75 | Currie | $1.25 |
| 30-32.9 | .90 | Mexia | 1.25 |
| 33-35.9 | 1.10 | Powell | 1.25 |
| 36 and above | 1.25 | | |

### Humble's Prices

| Ranger Field | | Moran Field, Wichita and Archer Counties | |
|---|---|---|---|
| Below 30 | $ .90 | Below 30 | $ .75 |
| 30-32.9 | 1.10 | 30-32.9 | .90 |
| 33-35.9 | 1.25 | 33-35.9 | 1.10 |
| 36 and above | 1.35 | 36 and above | 1.25 |

### Magnolia's Price Schedule
### North and North-Central Texas, Okla., and Kan.

| | | | |
|---|---|---|---|
| Below 30 | $ .75 | Corsicana, light, Powell, Mexia | $1.25 |
| 30-32.9 | .90 | Corsicana, heavy | .90 |
| 33 and above | 1.25 | Thrall | 1.00 |

### NORTH LOUISIANA—ARKANSAS FIELDS

| | | | |
|---|---|---|---|
| Caddo, 38 degrees and above | $1.35 | Bull Bayou, 38 and above | $1.15 |
| do 35 to 37.9 | 1.25 | do 35 to 37.9 | 1.00 |
| do 32 to 34.9 | 1.15 | do 32 to 34.9 | .85 |
| do below 32 | 1.00 | De Soto | 1.20 |
| Homer, 35 and above | 1.10 | Crichton | 1.00 |
| do 33 to 34.9 | 1.00 | Bellevue | 1.35 |
| do 31 to 32.9 | .90 | Smackover, 25 and above | .95 |
| do below 31 | .75 | do below 25 Be | .85 |
| Haynesville, 33 and above | 1.00 | Stephens 26 and above | .90 |
| do below 33 | .90 | do below 26 | .70 |
| El Dorado, 33 and above | 1.00 | Cotton Valley | .95 |
| do below 33 | .90 | | |

### GULF COASTAL FIELDS

| | 1924 | 1923 | | 1923 | | 1922 | |
|---|---|---|---|---|---|---|---|
| | Dec. 1 | High | | Low | | High | Low |
| Spindletop | $1.50 | Mar.15 | $1.75 | Aug.18 | $1.00 | Jan.1 $1.25 | Dec.30 $1.25 |
| Goose Creek "A" | 1.50 | Mar.15 | 1.75 | Aug.18 | 1.00 | Jan.1 1.25 | Dec.30 1.25 |
| Goose Creek "B" | 1.25 | Mar.15 | 1.50 | Aug.18 | 1.00 | Jan.1 1.25 | Dec.30 1.25 |
| Sour Lake | 1.50 | Mar.15 | 1.75 | Aug.18 | 1.00 | Jan.1 1.25 | Dec.30 1.25 |
| Humble | 1.50 | Mar.15 | 1.75 | Aug.18 | 1.00 | Jan.1 1.25 | Dec.30 1.25 |
| Hull "A" | 1.50 | Mar.15 | 1.75 | Aug.18 | 1.00 | Jan.1 1.25 | Dec.30 1.25 |
| Hull "B" | 1.25 | Mar.15 | 1.30 | Jan.1 | .80 | Jan.1 1.25 | Dec.30 1.25 |
| West Columbia | 1.50 | Mar.15 | 1.75 | Aug.18 | 1.00 | Jan.1 1.25 | Dec.30 1.25 |
| Edgerly | 1.50 | Mar.15 | 1.75 | Aug.18 | 1.00 | Jan.1 1.25 | Dec.30 1.25 |
| Vinton | 1.50 | Mar.15 | 1.75 | Aug.18 | 1.00 | Jan.1 1.25 | Dec.30 1.25 |
| Jennings | 1.50 | Mar.15 | 1.75 | Aug.18 | 1.00 | Jan.1 1.25 | Dec.30 1.25 |
| Saratoga | 1.50 | Mar.15 | 1.75 | Aug.18 | 1.00 | Jan.1 1.25 | Dec.30 1.25 |
| Orange "A" | 1.50 | | | | | | |
| Orange "B" | 1.25 | | | | | | |
| Pierce Junction "A" | 1.50 | | | | | | |
| Pierce Junction "B" | 1.25 | | | | | | |

### WYOMING FIELDS

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Elk Basin | $1.20 | Feb.17 | $2.10 | Nov.9 | $ .95 | Jan.1 | $1.90 | Aug.4 $1.20 |
| Grass Creek | 1.20 | Feb.17 | 2.10 | Nov.9 | .95 | Jan.1 | 1.90 | Aug.4 1.20 |
| Big Muddy | .75 | Feb.17 | 1.65 | Nov.9 | .45 | Jan.1 | 1.40 | Aug.4 .70 |
| Salt Creek | .85 | Feb.17 | 1.65 | Nov.9 | .60 | Jan.1 | 1.40 | Aug.4 .70 |
| Lance Creek | 1.15 | Feb.17 | 2.10 | Nov.9 | .80 | Jan.1 | 1.90 | Aug.4 .20 |
| Rock Creek | .95 | Feb.17 | 1.75 | Nov.9 | .60 | Jan.1 | 1.50 | Aug.4 .80 |
| Osage | 1.15 | Feb.17 | 2.10 | Nov.9 | .80 | Jan.1 | 1.90 | Aug.4 1.20 |
| Cat Creek, Mont | 1.20 | Feb.17 | 2.10 | Nov.9 | .95 | Jan.1 | 1.90 | Aug.4 1.20 |
| Sunburst, Mont | .90 | Feb.17 | 1.50 | June 6 | .70 | | | |

### CALIFORNIA

| | | | | | |
|---|---|---|---|---|---|
| 14-19.9 | $1.00 | 25-25.9 | $1.10 | 30-30.9 | $1.25 |
| 20-20.9 | 1.01 | 26-26.9 | 1.13 | 31-31.9 | 1.28 |
| 21-21.9 | 1.02 | 27-27.9 | 1.16 | 32-32.9 | 1.31 |
| 22-22.9 | 1.03 | 28-28.9 | 1.19 | 33-33.9 | 1.34 |
| 23-23.9 | 1.05 | 29-29.9 | 1.22 | 34-34.9 | 1.37 |
| 24-24.9 | 1.07 | | | 35 and above | 1.40 |

### ROSECRANS FIELD—EFFECTIVE SEPT. 24, 1924

36-36.9 ..... $1.46
and for each increase of one full degree above 36° gravity, up to and including 41.9° gravity, 6 cents per barrel additional
42 and above ..... 1.82

## British Importations

NEW YORK, Dec. 1.— During the week ended Nov. 10, importations of petroleum into the United Kingdom aggregated 15,796,347 gallons. Larger receipts follow:

| Consignee | Imperial Gallons | Product | Port of Origin |
|---|---|---|---|
| London— | | | |
| Anglo-Amer..... | 1,503,930 | Gas Oil | New York |
| Anglo-Amer..... | 1,205,200 | Fuel Oil | B. Rouge |
| Anglo-Amer..... | 878,476 | Lubes | New York |
| Anglo-Amer..... | 228,670 | Gas Oil | New York |
| Anglo-Mex..... | 2,101,800 | Gasoline | N. Orleans |
| Anglo-Mex..... | 649,610 | Lubes | P. Mexico |
| Anglo-Mex..... | 369,900 | Kerosene | Tampico |
| Anglo-Mex..... | 895,980 | Kerosene | N. Orleans |
| Anglo-Mex..... | 957,000 | Gasoline | N. Orleans |
| British Pet..... | 975,146 | Gasoline | Constanza |
| Bristol— | | | |
| Anglo-Amer..... | 230,330 | Fuel Oil | Tampico |
| Anglo-Amer..... | 354,503 | Fuel Oil | B. Rouge |
| Grangemouth— | | | |
| Scottish Oils..... | 2,366,750 | Crude | Abadan |

## Cargoes Clearing From N. Y.

By Special Correspondent

NEW YORK, Dec. 1

| Date | Destination | Product | Quantity |
|---|---|---|---|
| Nov. 12 | Perth (Aust.) | Ref.Pet. | 6,000 cases |
| Nov. 12 | Perth | Naphtha | 10,250 cases |
| Nov. 12 | Melbourne | Ref.Pet | 4,000 cases |
| Nov. 12 | Melbourne | Naphtha | 9,000 cases |
| Nov. 12 | Sydney | Kerosene | 5,000 cases |
| Nov. 12 | Sydney | Gasoline | 10,000 cases |
| Oct. 31 | Macoris (Dom. Repub.) | Ref.Pet. | 10,000 cases |
| Oct. 31 | Santo Doningo | Ref.Pet. | 3,220 cases |
| Nov. 14 | Santos (Brazil) | Gasoline | 22,400 cases |
| Nov. 14 | Santos | Petroleum | 32,000 cases |
| Nov. 14 | Santos | Gasoline | 1,000 bbls. |
| Nov. 14 | Santos | Oil | 1,000 cases |
| Nov. 14 | Rio de Janiero | Ref.Pet. | 11,800 cases |
| Nov. 14 | Rio de Janiero | Gasoline | 5,000 cases |

## Sulfuric Acid Firmer; Linseed Is Easier

NEW YORK, Dec. 1.—The following is a review of the markets for oils and supplies used in compounding and refining:

**Linseed Oil.** Demand less spirited. Spot oil available at $1.07 per gallon, carlots cooperage basis, although crushers quote $1.08. Futures easier, reflecting tone in flaxseed. Crushers reluctant to sell beyond March. Buying chiefly hand-to-mouth last week.

**Animal Oils.** Fairly steady. More interest in neatsfoot oil. Better movement in degras. Stearine a shade easier, but inquiry is good. Buyers of oleic acid more active. Tallow oil moving in larger, steadier way. Horse oil dull and easy. Lard oil demand slightly better.

**Fish Oils.** Crude menhaden still 58 cents, tank cars, factory. Light pressed firmer, as stocks dwindle. Yellow and white bleached moving more freely. Cod oil demand also better. Little interest in whale or sperm oils. Herring oil dull but steady.

**Caustic Soda.** Steady. Demand slightly improved. Much better inquiry for 1925 delivery. Export buying more spirited. Good movement against standing contracts.

**Soda Ash.** Larger demand, prices firm. Export inquiry good but foreign demand more spasmodic. Spot stocks moderate. Good request for 1925 delivery.

**Sulfuric Acid.** Much improved demand. Prices unchanged. Stocks moderate. Sellers look for better movement soon. Stocks on hand fair.

**Bleaching Powder.** Stronger. Sellers offering more sparingly. Consumers more anxious to cover first quarter of 1925 requirements.

**Naval Stores.** Turpentine, sluggish, easier. Buyers purchasing hand-to-mouth. Little interest shown by export buyers. Rosins steady. Demand picking up. Rosin oil more active. Tar and pitch quiet.

## Bad Weather Predicted For This Week

CHICAGO, Nov. 29.—Moderate temperatures but with rather marked alterations and consequent unpleasant effect on people outdoors, is what the weather man holds in store for the week ending Dec. 6. There will be rain and snow at intervals during the first half of the week in the eastern half of the Chicago forecast district. Indeed, it may last all week in the Ohio river valley but the fall will be rain rather than snow. About the same is predicted for the western half of the region but it may enjoy a few bright hours in the middle of the week.

Last week after Monday was not bad for business. The week opened wet throughout the Great Lakes region, east and south, but until after Thanksgiving and all the trips across country to visit relatives had been successfully terminated, no severe weather developed. Gasoline gallonage improved generally as a result, strengthening markets to an unexpected degree in Chicago.

### Barnsdall's Profits Taper Off

NEW YORK, Nov. 28.—Barnsdall Corp. reports for the third quarter of 1924 net profits of $176,034 after taxes, depreciation and depletion, equivalent to 24 cents a share, par value $25 a share. In the preceding quarter net profits equaled 55 cents a share and in the first quarter of this year 66 cents a share.

In the nine months ended Sept. 30 net profits totaled $1,033,414 or $1.45 a share on the 708,536 shares of A and B common outstanding.

### Pierce Petroleum Earnings

ST. LOUIS, Nov. 28.—Net profit of the Pierce Petroleum Co. and subsidiaries in the five months ended Sept. 30 was $83,347 after interest and depreciation but before inventory adjustments estimated at $300,000. Consolidated income account for the five months follows:

| | |
|---|---|
| Gross profit | $3,312,504 |
| Expenses | 2,746,233 |
| Balance | $566,271 |
| Interest, etc. | 219,677 |
| Depreciation | 263,247 |
| Net profit | $83,347 |

## Panhandle's Net Income Higher This Year

WICHITA FALLS, Nov. 29.—Panhandle Producing & Refining Co. reports net income of $76,569 for the third quarter before sinking fund, depreciation, depletion and dividends on preferred stock. In corresponding quarter of 1923 there was a net of only $10,426. For the nine months ended Sept. 30, net income was slightly lower than in the first nine months of 1924. Consolidated income accounts for the two third quarters compare:

| | 1924 | 1923 |
|---|---|---|
| Operating revenue | $1,248,030 | $802,927 |
| Exp., taxes, etc. | 1,164,222 | 781,272 |
| Balance | $83,808 | $21,655 |
| Other income | 11,661 | 3,746 |
| Total income | $95,469 | $25,401 |
| Deductions | 18,900 | 14,975 |
| Net income | ‡$76,569 | $10,426 |
| Preferred dividends | †58,704 | 58,704 |
| Surplus | $17,865 | *$48,278 |

*Deficit. †Cumulative dividends on preferred stock accrued. ‡Before sinking fund, depreciation, depletion and reserves.

Consolidated income accounts for the two nine-month periods follow:

| | 1924 | 1923 |
|---|---|---|
| Operating revenue | $3,414,831 | $2,723,359 |
| Exp. and taxes | 3,047,896 | 2,355,169 |
| Balance | $366,936 | $368,190 |
| Other income | 17,971 | 9,463 |
| Total income | $384,906 | $377,653 |
| Deductions | 53,191 | 43,685 |
| Net income | ‡$331,715 | $333,968 |
| Preferred dividends | †176,112 | 176,112 |
| Surplus | $155,603 | $157,856 |

*Deficit. †Cumulative dividends on preferred stock accrued. ‡Before sinking fund, depreciation, depletion and reserves.

The amount shown in the operating revenues account for the third quarter does not include loss on inventories amounting to $226,111. During the first quarter there was a gain of $129,937 on value of inventories leaving a net loss of $96,174 for the nine months.

## Receiver Is Appointed For Century Co.

NEW YORK, Nov. 28.—E. Bright Wilson has been appointed receiver for the Century Oil Co. and its six subsidiaries, the Century Oil Co. of Oklahoma Century Oil Co. of California, Century Oil Co. of Texas, La Porte Oil & Refining Corp. of Maryland, La Porte Oil & Refining Co. of Texas and the Goose Creek Oil Corp. of Delaware. Action was brought by A. E. Fitkin & Co., engineering and management interests who organized the Century Co. of 1919. Counsel for the Century issued this statement:

"The Century Oil Co. has liabilities approximating $400,000, none of which are secured. Against this sum the company has producing oil lands in Texas, California and Oklahoma. It has a large refinery and many tank cars in Texas. These assets aggregate at least $800,000. The company is capitalized at $2,000,000. The creditors will be paid in full and there will be some sort of a distribution to the stockholders."

# OIL STOCKS AND FINANCES

## United Finances Plant Improvements

LOS ANGELES, Nov. 29.—United Oil Co., which owns and operates the Richfield Oil Co., is offering to stockholders $1,250,000 of 7 per cent first mortgage convertible bonds at the rate of $100 face value of bonds for each $400 par value of stock held. Price is par and accrued interest. A banking company has agreed to buy the unsubscribed portion of the issue at 105 and accrued interest.

The bonds are convertible into stock from Feb. 1, 1925, to Jan. 31, 1926, at $30 a share; from Feb. 1, 1926, to Jan. 31, 1927, at $32.50 a share; from Feb. 1, 1927, to Jan. 31, 1928, at $35 a share, and from Feb. 1, 1928, to Jan 1, 1929, at $40 a share.

President C. F. Whittier said the purpose of the issue was to reimburse the treasury for capital expenditures in the building of a refinery, pipe lines, service stations and other operating equipment which cost more than $1,500,000.

Consolidated balance sheets of United Oil Co., as of Dec. 31, 1923, and Sept. 30, 1924, the latter giving effect to the new bond issue, are as follows:

**ASSETS**

| | 1924 | 1923 |
|---|---|---|
| Cash | $ 1,792,053 | $ 162,617 |
| Accounts rec. | 885,508 | 1,274,114 |
| Accounts rec. in oil | 23,438 | 155,385 |
| Notes rec. | 30,529 | 29,294 |
| Inventory | 330,239 | 1,192,322 |
| Investments | 21,100 | 33,285 |
| Properties* | 9,759,985 | 11,906,274 |
| Deferred items | 37,801 | 151,629 |
| Total | $12,880,653 | $14,904,920 |

*Net after depreciation and depletion.

**LIABILITIES**

| | | |
|---|---|---|
| Accounts pay. | $ 741,625 | $ 1,069,991 |
| Accounts pay. in oil | 47,676 | ..... |
| Notes payable | 737,696 | 643,826 |
| Unredeemed coups | 32,135 | 23,287 |
| Tax reserve | 184,628 | 251,200 |
| Accrued items | 58,772 | 122,874 |
| Purch. money ob | 1,000,000 | 250,000 |
| Capital stock | 4,500,000 | 4,500,000 |
| 7% bonds | 1,500,000 | 2,625,000 |
| Surplus | 4,078,121 | 5,418,742 |
| Total | $12,880,653 | $14,904,920 |

## Cleveland Stock Market

November 28

| | Par | Bid | Asked | 1923 High | 1923 Low |
|---|---|---|---|---|---|
| Canfield Oil Co. | $100 | ..... | ..... | ..... | ..... |
| do pfd. | 100 | ..... | ..... | 100 | 95 |
| Fred G. Clark Co. | 10 | ..... | 3¾ | 4 | 2 |
| National Refin. Co. | 25 | 36½ | 39 | 39 | 33¾ |
| do pfd. | 100 | ..... | ... | 130 | 116 |
| Paragon Refin. Co. | 25 | 6 | 7 | 6 | 5¼ |
| do pfd. | 100 | ..... | ..... | 75 | 40 |

x—Ex dividend

## Oil Dividends

| | Amount | Payable | Stock of Record |
|---|---|---|---|
| Ark. Nat. Gas q | 8c | Dec. 31 | Dec. 1 |
| Chesebrough q | 62½c | Dec. 29 | Dec. 9 |
| do pfd. q | $1.75 | Dec. 29 | Dec. 9 |
| Cities Service m | ½% | Jan. 1 | Dec. 15 |
| do m | 1½% | Jan. 1 | Dec. 15 |
| do pfd. m | ½% | Jan. 1 | Dec. 15 |
| do pfd B m | ½% | Jan. 1 | Dec. 15 |
| Holly Oil | 25c | Dec. 31 | Dec. 15 |
| Illinois P. L. s.a. | 86 | Dec. 30 | Nov. 29 |
| International sa. a | 25c | Nov. 29 | Nov. 28 |
| N. Y. Transit q | 50c | Jan. 15 | Dec. 19 |
| Ohio Oil q | 25c | Dec. 31 | Nov. 29 |
| Pacific Oil s. a | $1 | Jan. 20 | Dec. 15 |
| Phillips q | 50c | Jan. 2 | Dec. 15 |
| Pure 5¼ pfd. q | $1.25 | Jan. 2 | Dec. 15 |
| do 6% pfd. q | $1.50 | Jan. 2 | Dec. 15 |
| do 8% pfd. q | $2 | Jan. 2 | Dec. 15 |
| Shell T. & T. int | 2s | Jan. 5 | ..... |
| Solar Ref. s. a | 85 | Dec. 20 | Nov. 29 |
| do extra | 85 | Dec. 20 | Nov. 29 |
| S. O. Kentucky q | $1 | Dec. 31 | ..... |
| S. O. New Jersey q | 25c | Dec. 15 | Nov. 28 |
| do pfd. q | $1.75 | Dec. 15 | Nov. 28 |
| Texas Co. q | 75c | Dec. 31 | Dec. 5 |

## Financial Notes

**Maracibo Oil Exploration Co.**—Debenture notes to be redeemed Feb. 1, next, at par. Meanwhile they may be converted into capital stock at rate of $10 par value of notes for one share of capital stock upon five days' written notice. Offer expires Jan. 26.

**Simms Petroleum Co.**—M. C. Brush, president American International Corp., and John L. Weeks, Luke, Banks & Weeks, elected to executive committee. Henry Oliver, Pittsburgh, resigned as director.

**Standard Oil Co. of Ohio.**—Rumors in New York financial district say par value of stock will be changed from $100 to $25 and four shares of new stock issued for each share of old.

**Derby Oil & Refining Co.**—Net earnings for October after all charges including depreciation and depletion were $132,298 as compared with a deficit of $56,830 in October, 1923.

**Anglo-Persian Oil Co.**—London dispatches say British government will not sell its stock in this company and there will be no merger with the Royal-Dutch Shell interests.

**Texas Pacific Coal & Oil Co.**—Authorized in Texas to increase capital stock from $8,120,000 to $8,448,048.

**Ohio Fuel Supply Co.**—Capital stock to be stricken from New York Stock Exchange list Dec. 15.

**Skelly Oil Co.**—$6,850,000 6½% 3-year convertible notes due Oct. 1, 1927, listed on New York Stock Exchange.

## Pennok Stockholders Favor Dissolution

NEW YORK, Nov. 29.—Stockholders of the Pennok Oil Co. have approved the plan to dissolve the company and sell its assets to the new Pennok Oil Corp. In the dissolution on each share of stock of the old company will be paid $8 cash, $5 in 6 per cent 3-year gold notes and one-third of stock in the new company.

For the first three quarters of this year, the old company reports earnings of $1,193,464 after expenses, depreciation and depletion but before federal taxes, equivalent to $2.65 a share, as compared with $6.29 a share in the first three quarters of 1923.

Almost half of this year's net was earned in the third quarter, the net then after all expenses and reserves except federal taxes being $539,194 a share, or $1.19 a share, as compared with $1.44 a share in the third quarter of 1923.

Income accounts for the two nine-month periods follow:

| | 1924 | 1923 |
|---|---|---|
| Gross income | $2,009,353 | $3,190,078 |
| Op. and gen. expenses | 312,105 | 342,505 |
| Net Income | $1,697,248 | $2,847,573 |
| Other income | 160,794 | 308,824 |
| Total income | $1,858,042 | $3,156,397 |
| Depreciation, depletion, etc. | 664,578 | *795,867 |
| Net income† | $1,193,464 | $2,360,530 |
| Dividends | 300,000 | 225,000 |
| Surplus† | $893,464 | $2,135,530 |

Income accounts for the third quarter of 1924 and 1923 follow:

| | | |
|---|---|---|
| Gross income | $935,216 | $840,995 |
| Op. and gen. expenses | 124,124 | 110,214 |
| Net earnings | $829,092 | $730,781 |
| Other income | 51,896 | 59,450 |
| Total income | $880,988 | $790,231 |
| Deprec. deplet. | 341,794 | *248,583 |
| Net income† | $539,194 | $541,648 |
| Dividends | 112,500 | 75,000 |
| Surplus† | $426,694 | $466,648 |

*Includes inventory losses and abandoned leases.
†Before federal taxes.

Balance sheets as of Sept. 30 and June 30, 1924, compare:

| Assets | Sept. 30 | June 30 |
|---|---|---|
| Fixed assets | $5,912,204 | $5,570,178 |
| Cash, loans and tax exempt sec. | 3,272,311 | 3,180,570 |
| Accts., notes rec. | 108,432 | 165,664 |
| Inventories | 481,115 | 204,093 |
| Insurance fund | 29,395 | 29,177 |
| Invest. capital stock Pennok Oil Corp | 150,000 | ..... |
| Deferred charges | 30,662 | 33,258 |
| Total | $9,984,122 | $9,182,940 |
| **Liabilities** | | |
| Capital stock | $4,500,000 | $3,750,000 |
| Accounts payable | 233,439 | 186,519 |
| Deprec., deplet | 3,181,883 | 2,854,316 |
| Surplus | 2,068,799 | 2,392,105 |
| Total | $9,984,122 | $9,182,940 |

# Transactions In Oil Shares on New York Stock Exchange

| 1923 High | 1923 Low | 1924 High | 1924 Low | Listed Capital | Par Value | Stocks | Div. Rate | Last Paid | Transactions week ended Nov. 29 Sales | First | High | Low | Last | Ch'ge |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ..... | ..... | 43 | 25 | (sh) 200,000 | N.P. | American Republics | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 29½ | 24⅞ | 34⅝ | 27½ | $ 56,000,000 | $25 | Associated Oil | 37½cQ | Oct. 25, 24 | 12,400 | 32¾ | 32⅞ | 31⅞ | 32½ | + ⅜ |
| 160 | 98¾ | 140½ | 78½ | 50,000,000 | 100 | Atlantic Refining | ..... | June 16, 24 | 2,200 | 92⅛ | 92½ | 91 | 91 | —1 |
| 120 | 115 | 118 | 108 | 20,000,000 | 100 | do pfd | $1¾Q | Nov. 1, 24 | 200 | 112¾ | 112¾ | 112¾ | 112¾ | —¾ |
| 35 | 9⅞ | 21⅝ | 14 | 13,000,000 | 25 | Barnsdall Corp. A | ..... | Apr. 30, 21 | 1,800 | 19 | 19⅛ | 18¼ | 19 | 0 |
| 22 | 6 | 16¼ | 10 | 3,713,275 | 25 | do B | ..... | Apr. 30, 21 | 500 | 14 | 14⅜ | 14 | 14⅜ | +⅝ |
| 9⅛ | 1¼ | 5 | 1 | (sh) 150,000 | N.P. | Caddo Central O. & R | ..... | ..... | 500 | 1½ | 1½ | 1¼ | 1¼ | —¼ |
| 29⅜ | 17⅛ | 29¼ | 19½ | $ 17,377,000 | $25 | California Petroleum | 4¾cQ | Dec. 1, 24 | 11,000 | 23⅞ | 24 | 23⅛ | 23⅞ | —⅛ |
| 110½ | 90½ | 107 | 92½ | 11,955,100 | 100 | do pfd | $1¾Q | Oct. 1, 24 | 1,000 | 98 | 98 | 96¾ | 97¾ | —¼ |
| 62¼ | 22¾ | 40¾ | 22⅝ | (sh) 1,357,800 | N.P. | Cosden & Co | ..... | Aug. 1, 23 | 17,000 | 28 | 28⅛ | 27 | 27½ | —¼ |
| 90⅜ | 83¼ | 95 | 83½ | $ 6,998,000 | $100 | do pfd | $1¾Q | Dec. 1, 24 | 200 | 86 | 86 | 86 | 86 | 0 |
| 54 | 23 | 53¾ | 31⅜ | 19,830,400 | 100 | General Asphalt Co | ..... | ..... | 14,200 | 52¼ | 53¼ | 51¾ | 52⅛ | +¼ |
| 83 | 60 | 92 | 71½ | 7,416,000 | 100 | do pfd | $1¾Q | Dec. 1, 24 | 300 | 92 | 92 | 90 | 90 | —1⅝ |
| ..... | ..... | 45 | 38¾ | 28,856,050 | 25 | General Petroleum | 50cQ | Sept. 15, 24 | 16,200 | 43¼ | 44¾ | 43 | 43¾ | +¾ |
| 78 | 40¾ | 82½ | 61 | 25,000,000 | 100 | Houston Oil Co | ..... | ..... | 7,800 | 73⅜ | 74½ | 72⅜ | 74½ | +1½ |
| 11¼ | 3⅜ | 13½ | 5¾ | (sh) 450,000 | N.P. | Independent Oil & Gas | 25cQ | Sept. 30, 24 | 24,700 | 12½ | *13½ | 11½ | 11½ | —⅜ |
| 19 | 1 | 2⅜ | ¾ | $ 5,000,000 | $25 | Indiahoma Refining Co | ..... | July 1, 21 | 300 | ¾ | ⅜ | ¼ | ⅜ | +⅛ |
| 8½ | 3½ | 7½ | 3¾ | 7,830,450 | 10 | Indian Refining Co | ..... | Dec. 15, 20 | 1,000 | 5 | 5 | 5 | 5 | —⅞ |
| 49½ | 49½ | 74 | 60 | 2,296,400 | 100 | do pfd | ..... | Dec. 15, 21 | ..... | ..... | ..... | ..... | ..... | ..... |
| 19¼ | 7⅛ | 16⅞ | 10½ | 1,094,744 | N.P. | Invincible Oil Corp | ..... | ..... | 45,900 | 14¾ | 15⅜ | 14⅜ | 15½ | +¼ |
| 3¼ | ¼ | 1 | ¼ | $ 1,697,610 | $10 | Kansas & Gulf Corp | ..... | ..... | 700 | ⅜ | ⅜ | ¼ | ¼ | 0 |
| 28⅜ | 16 | 37½ | 24⅝ | (sh) 264,100 | N.P. | Maracaibo Oil | ..... | ..... | 4,600 | 28 | 28⅜ | 27⅝ | 28 | +⅜ |
| 59⅝ | 17½ | 42 | 29 | (sh) 1,549,190 | N.P. | Marland Oil Co | ..... | July 1, 23 | 63,300 | 40⅝ | 40⅝ | 39¼ | 38⅞ | —1⅜ |
| 293 | 182 | ..... | ..... | $ 45,942,800 | $100 | Mexican Petroleum Co | $3Q | Oct. 20, 24 | ..... | ..... | ..... | ..... | ..... | ..... |
| 105¼ | 100¼ | ..... | ..... | 12,000,000 | $100 | do pfd | $2Q | Oct. 20, 24 | ..... | ..... | ..... | ..... | ..... | ..... |
| 23¾ | 5¾ | 25¾ | 14⅜ | (sh) 945,939 | N.P. | Mexican Seaboard Oil | 50cQ | Nov. 15, 24 | 13,200 | 20⅜ | 21 | 20⅛ | 20⅝ | +⅜ |
| 12¼ | 3½ | 6⅞ | 1 | $ 29,799,450 | $10 | Middle States Oil Corp | ..... | July 1, 23 | 7,500 | 1⅝ | 1¾ | 1½ | 1⅝ | 0 |
| 67 | 31 | 39¾ | 31⅝ | $ 39,626,000 | 25 | Ohio Fuel Supply Co | 62½cQ | Oct. 15, 24 | ..... | ..... | ..... | ..... | ..... | ..... |
| 52⅛ | 31¼ | 58¼ | 45 | (sh) 3,500,000 | N.P. | Pacific Oil Co | $1S.A. | July 21, 24 | 45,100 | 54¾ | 55½ | 54⅛ | 54⅜ | +¾ |
| 98½ | 53 | 61¾ | 42⅛ | $ 48,292,450 | $50 | Pan American P. & T | $1Q | Oct. 20, 24 | 8,800 | 54½ | 56½ | 54½ | 55¾ | +½ |
| 86 | 50½ | 59½ | 41¾ | 81,970,100 | 50 | do Class B | $1Q | Oct. 20, 21 | 42,800 | 53¾ | 55⅜ | 53⅛ | 55 | +1¼ |
| 6¼ | 1¾ | 3½ | 1⅜ | (sh) 198,770 | N.P. | Panhandle P. & R | ..... | ..... | 700 | 3 | 3⅛ | 3 | 3 | +¼ |
| 68 | 27½ | 40¼ | 29¾ | $ 3,855,500 | $100 | do pfd | ..... | July 2, 23 | 400 | 34⅝ | 37 | 34⅝ | 37 | +7 |
| 69⅝ | 19¾ | 42¾ | 28½ | (sh) 1,849,848 | N.P. | Phillips Petroleum | 50cQ | Oct. 2, 24 | 42,700 | 36¾ | 37¼ | 36¾ | 36⅝ | —⅛ |
| 6 | 1⅜ | 4½ | 1½ | $ 29,622,925 | $25 | Pierce Oil Corp | ..... | ..... | 2,800 | 1⅞ | 1⅞ | 1⅝ | 1⅝ | —⅛ |
| 44½ | 16 | 39¾ | 20 | 15,000,000 | 100 | do pfd | ..... | Feb. 1, 22 | 400 | 26⅞ | 26½ | 26½ | 26¾ | —¾ |
| 58⅛ | 17 | 43½ | 22¾ | 11,467,850 | 50 | Producers & Refiners | ..... | Sept. 15, 23 | 4,900 | 28½ | 29½ | 28 | 29 | +½ |
| 49¼ | 36 | 47½ | 22 | 2,845,350 | 50 | do pfd | 87½cQ | Nov. 3, 24 | ..... | ..... | ..... | ..... | ..... | ..... |
| 32 | 16¾ | 28 | 20 | 71,316,575 | 25 | Pure Oil Co | 37½cQ | Dec. 1, 24 | 48,100 | 27¾ | 28 | 26¾ | 28 | +1 |
| 100 | 82½ | 104½ | 92 | 13,000,000 | 100 | do 8% pfd | $2Q | Oct. 1, 24 | 600 | 103½ | *104½ | 103 | 104 | +½ |
| 55⅛ | 40½ | 59½ | 40⅜ | (sh) 727,550 | 13.40 | Royal Dutch, N. Y. shares | $3.18½ | Aug. 12, 24 | 9,700 | 45¼ | 46⅞ | 45¼ | 46⅞ | +¾ |
| 41½ | 29⅜ | 41½ | 33 | (sh) 152,894 | £2 | Shell Transport & T | $1.07½ | July 23, 24 | 200 | 37¾ | 37¾ | 37¾ | 37¾ | —1 |
| 19¼ | 12⅜ | 20⅝ | 15¾ | (sh) 10,000,000 | N.P. | Shell Union Oil Corp | 25cQ | Sept. 30, 24 | 46,500 | 20 | ‡20½ | 19⅝ | 20⅜ | +⅝ |
| 95 | 89½ | 98½ | 91½ | $ 20,000,000 | $100 | do pfd | $1½Q | Nov. 15, 24 | 1,400 | 97⅞ | 98½ | 97⅞ | 98½ | 0 |
| 16 | 6¼ | 19 | 10⅜ | 7,204,710 | 10 | Simms Petroleum Co | ..... | ..... | 25,400 | 18⅛ | 18½ | 17⅞ | 18 | 0 |
| 30⅜ | 16 | 27⅜ | 15 | (sh) 4,480,957 | N.P. | Sinclair Consolidated | ..... | May 31, 24 | 33,500 | 17¼ | 17⅜ | 16⅝ | 16⅝ | —⅜ |
| 99⅜ | 80¼ | 88½ | 75 | $ 18,914,900 | $100 | do pfd | $2Q | Nov. 15, 24 | 600 | 81 | 81⅛ | 81 | 81⅛ | —⅜ |
| 35 | 12¾ | 29 | 17⅛ | 20,579,090 | 25 | Skelly Oil Co | ..... | ..... | 4,300 | 22⅜ | 22¾ | 21¾ | 21¾ | —⅝ |
| 64½ | 47¾ | 68½ | 55½ | 234,317,800 | 25 | S. O. California | 50cQ | Sept. 15, 24 | 37,200 | 61¾ | 63½ | 61 | 63¼ | +1¾ |
| 44⅛ | 30¾ | 42½ | 33 | 505,601,775 | 25 | S. O. New Jersey | 25cQ | Sept. 15, 24 | 29,100 | 37½ | 38⅛ | 37⅜ | 38 | +¾ |
| 118¼ | 114¾ | 119½ | 115¾ | 199,972,900 | 100 | do pfd | $1¾Q | Sept. 15, 24 | 2,300 | 118¼ | 119 | 117¼ | 117½ | +1 |
| 6¾ | 2 | 8⅛ | 2⅜ | (sh) 1,087,228 | N.P. | Superior Oil Corp | ..... | Dec. 20, 20 | 7,100 | 4⅜ | 4½ | 4⅜ | 4½ | .0 |
| 82⅞ | 34⅝ | 45⅜ | 37¾ | $164,450,000 | $25 | The Texas Co | 75cQ | Sept. 30, 24 | 27,500 | 43½ | 43⅞ | 43¼ | 43¾ | +¼ |
| 24¾ | 5½ | 15¼ | 8 | 8,380,340 | 10 | Texas Pacific Coal & Oil | ..... | June 30, 23 | 23,500 | 10⅜ | 12⅛ | 10⅜ | 11⅞ | +1⅜ |
| 144 | 94 | 151 | 118¼ | 50,004,000 | 100 | Tide Water Oil Co | $1Q | Sept. 30, 24 | 1,500 | 129⅞ | 130 | 128 | 129 | —1 |
| 14½ | 1¼ | 6¼ | 3¾ | (sh) 2,957,529 | N.P. | Transcontinental Oil Co | ..... | ..... | 15,900 | 4⅛ | 4⅛ | 3⅞ | 4⅛ | 0 |
| ..... | ..... | 39 | 35 | $ 40,480,800 | $25 | Union Oil of California | 45cQ | Oct. 28, 24 | 62,200 | 35⅞ | *39 | 35⅞ | 37⅞ | +2¼ |
| 99¾ | 81 | 127¼ | 94 | $ 18,040,000 | $100 | Union Tank Car Co | $1¼W | Dec. 1, 24 | 800 | 122 | 124 | 122 | 122½ | —1⅞ |
| 114 | 100 | 116¾ | 106¼ | 12,000,000 | 100 | do pfd | $1¾Q | Dec. 1, 24 | 100 | 114 | 114 | 114 | 114 | 0 |
| 30⅜ | 20 | 29⅜ | 23⅜ | (sh) 460,000 | N.P. | White Eagle Oil & Ref | 50cQ | Oct. 20, 24 | 2,200 | 26¾ | 26⅞ | 26⅛ | 26¾ | +¼ |

*New High †New Low xEx-Dividend Total Sales 774,800

# Standard Oil Stock Traded In New York Curb Market

| 1923 High | 1923 Low | 1924 High | 1924 Low | Outstanding Capital | Par Value | Stocks | Div. Rate | Last Paid | Transactions week ended Nov. 28 Sales | First | High | Low | Last | Ch'ge |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 19¾ | 13½ | 19¼ | 14⅜ | £3,000,000 | £1 | Anglo American | 55cS.A. | May, 15, 24 | 4,800 | 17⅛ | *19¼ | 17 | 17⅝ | +⅝ |
| 7⅞ | 2½ | 4⅞ | 2½ | (sh) 500,000 | N.P. | Atlantic Lobos | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| 150 | 108 | 265 | 155 | $ 1,000,000 | $100 | Borne-Scrymser | $4S.A. | Oct. 15, 24 | 80 | 226 | 237 | 226 | 237 | +12 |
| 94½ | 69 | 85½ | 51 | 10,000,000 | 50 | Buckeye Pipe Line | $1Q | Sept. 15, 24 | 210 | 64 | 64 | 62½ | 62½ | —2¼ |
| ..... | ..... | 52 | 47½ | 3,000,000 | 25 | Chesebrough Mfg. Co | 62½cQ | Sept. 30, 24 | ..... | 49¼ | 49⅞ | 49¼ | 49½ | —½ |
| 118 | 110 | 115 | 112½ | 1,000,000 | 100 | do pfd | $1¾Q | Sept. 30, 24 | ..... | ..... | ..... | ..... | ..... | ..... |
| 50 | 32¼ | 54⅞ | 39¾ | 10,000,000 | 25 | Continental Oil | 50cQ | Sept. 15, 24 | ..... | ..... | ..... | ..... | ..... | ..... |
| 47½ | 15 | 20 | 11¼ | 1,500,000 | 25 | Crescent Pipe Line | ..... | Sept. 15, 23 | ..... | ..... | ..... | ..... | ..... | ..... |
| 168 | 85 | 149 | 110½ | 3,000,000 | 100 | Cumberland Pipe Line | $3Q | Sept. 15, 24 | 140 | 140 | 140 | 136 | 137 | —2½ |
| 117 | 87 | 105 | 77 | 5,000,000 | 100 | Eureka Pipe Line | $2Q | Oct. 31, 24 | 20 | 92 | 92 | 91 | 91 | —1 |
| 78 | 55 | 69¾ | 52 | 16,000,000 | 100 | Galena Signal Oil | $1Q | Sept. 30, 24 | 320 | 55 | 58 | 54 | 58 | +3 |
| 105 | 104 | 106 | 100½ | 4,000,000 | 100 | do new pfd | $2Q | Sept. 30, 24 | 10 | 104 | 104 | 104 | 104 | +¼ |
| 116 | 108 | 116 | 103½ | 2,000,000 | 100 | do old pfd | $2Q | Sept. 30, 24 | 10 | 110 | 110 | 110 | 110 | ..... |
| 41¼ | 28 | 43¾ | 30 | 43,750,000 | 25 | Humble Oil & Ref | 30cQ | Sept. 1, 24 | 11,200 | 38¾ | 42 | 38½ | 42 | +4 |
| 171 | 115 | 161 | 120 | 20,000,000 | 100 | Illinois Pipe Line | $6S.A. | June 30, 24 | 170 | 135 | 140 | 133 | 133 | —1 |
| 123 | 92 | 119 | 98½ | 39,222,750 | 25 | Imperial Oil Coupons | 75cQ | Dec. 1, 24 | 2,810 | 110 | 115 | 110 | 114¾ | +3¾ |
| 103 | 78 | 100 | 66 | 5,000,000 | 50 | Indiana Pipe Line | $2Q | Nov. 15, 24 | 130 | 77 | 78 | 77 | 78 | 0 |
| 24¾ | 13¼ | 22¼ | 16¾ | (sh) 7,118,138 | N.P. | International Petroleum | 25c | Nov. 29, 24 | 123,200 | 21½ | 24¾ | 21¼ | 24⅝ | +2¾ |
| 168 | 123 | 162 | 122 | $188,000,000 | 100 | Magnolia Petroleum | $1Q | Oct. 5, 24 | 700 | 156 | 140 | 133 | 140 | +4 |
| 29 | 19½ | 25⅜ | 20⅝ | 6,362,500 | 12½ | National Transit | 25cQ | Sept. 15, 24 | 200 | 23⅜ | 23⅜ | 23⅜ | 23⅜ | —⅜ |
| 138 | 70 | 97 | 54½ | 5,000,000 | 100 | New York Transit | 50cQ | Oct. 15, 24 | 70 | 66 | 68 | 65½ | 68 | +2 |
| 109½ | 90 | 107½ | 72 | 4,000,000 | 100 | Northern Pipe Line | $3S.A. | July 1, 24 | 150 | 82 | 84½ | 81 | 84 | +3½ |
| 85¾ | 48¾ | 79½ | 55 | 60,000,000 | 25 | Ohio Oil Co | 50cQ | Sept. 30, 24 | 1,700 | 63⅞ | 65½ | 63⅞ | 65½ | +1⅜ |
| 45¾ | 10½ | 43 | 27 | 10,000,000 | 25 | Penn.-Mex. Fuel | ..... | ..... | 400 | 34½ | 34½ | 34½ | 34½ | 0 |
| 700 | 152 | 269 | 193 | 60,000,000 | 100 | Prairie Oil & Gas | $2Q | Oct. 31, 24 | 4,265 | 209 | 209½ | 204 | 206½ | —2½ |
| 335 | 93 | 111 | 100 | 81,000,000 | 100 | Prairie Pipe Line | $2Q | Oct. 31, 24 | 1,040 | 104½ | 105½ | 104 | 105½ | + ½ |
| 212½ | 161 | 230 | 175 | 4,000,000 | 100 | Solar Refining Co | $5S.A. | June 20, 24 | 440 | 208 | 224 | 208 | 214½ | +7½ |
| 116 | 87 | 100 | 80¾ | 10,000,000 | 100 | Southern Pipe Line Co | $2Q | Dec. 1, 24 | 140 | 93 | 93 | 90 | 92 | 0 |
| 195 | 100 | 171 | 117 | 20,000,000 | 100 | South Penn Oil Co | ..... | Sept. 30, 22 | 590 | 142 | 144 | 141 | 143 | +2 |
| 88½ | 66½ | 89 | 70 | 3,500,000 | 100 | Southwest Pa. Pipe Lines | $2Q | Oct. 1, 24 | ..... | ..... | ..... | ..... | ..... | ..... |
| 69⅝ | 49⅜ | 68¾ | 54¼ | 221,706,668 | 25 | S. O. Indiana | 62½cQ | Sept. 15, 24 | 43,900 | 60¾ | 61¾ | 60¾ | 61⅛ | + ⅛ |
| 57½ | 36½ | 50¼ | 32½ | 8,000,000 | 25 | S. O. Kansas | ..... | June 16, 24 | 2,200 | 37⅞ | 39¼ | 37¾ | 38⅝ | 0 |
| 133 | 80 | 120 | 101 | 16,784,047 | 25 | S. O. Kentucky | $1Q | Oct. 1, 24 | 2,300 | 119 | 120 | 118 | 120 | + ¾ |
| 285 | 186 | 260 | 198 | 3,000,000 | 100 | S. O. Nebraska | $8S.A. | June 30, 24 | 1,040 | 242 | 260 | 242 | 260 | +21 |
| 48⅝ | 35⅛ | 53¾ | 37¾ | 225,324,650 | 25 | S. O. New York | 35cQ | Sept. 15, 24 | 13,600 | 45 | 45 | 44⅛ | 44½ | — ⅜ |
| 320 | 270 | 377½ | 275 | 14,000,000 | 100 | S. O. Ohio | $2½Q | Oct. 1, 24 | 1,550 | 328 | 377½ | 328 | 372 | +45 |
| 118 | 116 | 125½ | 115 | 7,000,000 | 100 | do pfd | $1¾Q | Dec. 1, 24 | 230 | 117 | 117¼ | †115 | 115 | —3 |
| 839 | 21 | 81 | 22 | 1,722,931 | 100 | Swan & Finch | ..... | Nov. 1, 19 | 180 | 25½ | 25⅝ | 24 | 25⅛ | — ½ |
| 53⅛ | 35½ | 83½ | 58½ | 61,523,075 | 25 | Vacuum Oil Co | 50cQ | Sept. 20, 24 | 14,200 | 80¼ | 83⅛ | 80⅛ | 83 | +2½ |
| 28 | 19 | 30 | 25½ | 100,000 | 10 | Washington Oil Co | ..... | Jan. 31, 22 | 10 | 30 | 30 | 30 | 30 | 0 |

### Cities Service Earnings Higher

NEW YORK, Nov. 29.—Report of Cities Service Co. for October and 12 months ended Oct. 31 showed continued increase in earnings. Condensed report follows:

| | 1924 | 1923 |
|---|---|---|
| October gross earnings... | $1,163,814 | $1,049,915 |
| Net Earnings..... | 1,100,495 | 1,011,711 |
| Net to stock and reserve. | 937,966 | 793,570 |
| Net to common stock and reserve..... | 310,404 | 376,110 |
| 12 months' gross earnings | 17,289,953 | 16,592,772 |
| Net earnings..... | 16,650,044 | 16,077,141 |
| Net to stock and reserve. | 14,600,646 | 13,453,399 |
| Net to common stock and reserves..... | 9,514,435 | 8,477,409 |

### New Union Stock is Ready

LOS ANGELES, Nov. 28.—New $25 shares certificates of the Union Oil Co. of California are now ready for distribution. Four of the new shares will be exchanged for one of the old $100 shares upon presentation of the latter at 1202 Union Bldg., Los Angeles. The holders of the interim receipts issued by Dillon, Reed & Co., bankers, will be exchanged for the $25 stock upon surrender at the Central Union Trust Co., New York.

ELKHART, IND., Nov. 28.—The recent anniversary of the Roxana Petroleum Corp.'s service station here resulted in sales of 5301 gallons of gasoline during the day from that station. L. V. Johnson, manager at Goshen, Ind., has charge of the Elkhart district.


SERVICE IN OIL SECURITIES

We are prepared to furnish information regarding Standard Oil and other oil stocks and to give most efficient service to orders in oil securities.

CARL H. PFORZHEIMER & CO.

Specialists in Standard Oil and Miscellaneous oil securities

25 Broad St. New York


## New York Curb Bonds

Week Ended Nov. 28

| | High | Low | Last | Ch'ge |
|---|---|---|---|---|
| Anglo Amer. 7½s | 101¼ | 101⅛ | 101⅛ | — ⅛ |
| Cities Service 7s B | 143 | 141 | 141 | —2 |
| do 7s C | 108½ | 106¾ | 108¼ | +2¼ |
| do 7s D | 98 | 97⅛ | 98 | + ½ |
| Galena S. O. 7s | 105⅝ | 105¼ | 105¼ | — ⅜ |
| Gen. Pet. 6s | 101 | 100¾ | 101 | 0 |
| Gulf Oil 5s | 98¾ | 98¼ | 98¾ | 0 |
| Phillips Petr. 7½s ww | 104 | 108 | 104 | +1 |
| Pure Oil 6½s | 98⅜ | 97½ | 98⅜ | +1⅝ |
| Sinclair C Oil 6s w i | 98⅞ | 98½ | 98¾ | + ⅛ |
| Skelly Oil 6½s w i | 103 | 102⅝ | 102¾ | + ¼ |
| S.O.N.Y. 7s 25 | 100⅜ | 100⅜ | 100¾ | 0 |
| do 7s 26 | 105⅜ | 105⅜ | 105⅜ | 0 |
| do 7s 27 | 105⅛ | 105¼ | 105¼ | — ¼ |
| do 7s 28 | 105⅜ | 105¼ | 105¼ | — ⅛ |
| do 7s 29 | 105¼ | 105¼ | 105¼ | 0 |
| do 7s 30 | 105⅜ | 105¼ | 105¼ | — ⅛ |
| do 7s 31 | 105⅜ | 105¼ | 105¼ | — ⅛ |
| do 6½s | 107¼ | 107 | 107 | — ⅜ |
| Un Oil Cal 6s 25 | 100¾ | 100¾ | 100¾ | 0 |
| Vacuum Oil 7s | 107 | 106⅞ | 107 | 0 |

## New York Bonds

Week Ended Nov. 29

| | High | Low | Last | Ch'ge |
|---|---|---|---|---|
| Atlantic Refg. debs 5s. | 99 | 98⅛ | 98½ | — ½ |
| Barnsdall Corp. 8s | 103½ | 102½ | 102½ | — ½ |
| Calif. Pet. sf 6½ | 101¾ | 101¼ | 101⅝ | — ¼ |
| Empire G. & F. 7½s | 97 | 96½ | 97 | + ⅛ |
| Humble O. & R. 5½s | 100 | 99½ | 99½ | — ⅜ |
| Marland 8s ser A | 106¼ | 106¼ | 106¼ | — ½ |
| do 7½ ser B | 105⅞ | 105¾ | 105¾ | + ¼ |
| Mex. Pet. of Del. cvt 8s | 107½ | 107 | 107⅜ | — ⅛ |
| Pan-Amer.P.& Trans.7s | 104¾ | 104½ | 104⅜ | — ⅜ |
| Pierce Oil deb 8s | 102 | 101⅞ | 102 | + ¼ |
| Prod. & Refiners 8s | 110½ | 110 | 110½ | ..... |
| Sinclair Con col 7s | 90 | 89 | 89 | +1 |
| do 6½s | 84⅜ | 83⅞ | 84 | 0 |
| Sinclair crude 6s | 100⅜ | 100 | 100 | — ½ |
| do 5½s | 100⅛ | 100 | 100⅛ | + ⅛ |
| Sinclair Pipe L s f 5s | 85 | 84 | 84¼ | — ¾ |
| Tidewater Oil 6½s | 103½ | 103¼ | 103¼ | + ½ |
| Union Oil of Cal 6s | 102⅝ | 102½ | 102½ | +2¾ |
| Union Tank Car 7s | 104 | 103¼ | 103¼ | —1 |

## New York Curb Market

| 1923 High | 1923 Low | 1924 High | 1924 Low | Par Value | Stocks | Transactions Week Ended Nov. 28 Sales | First | High | Low | Last | Ch'ge |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 4¼ | 7 | 4 | 10 | Ark. Nat. Gas | 200 | 5¼ | 5¼ | 5¼ | 5¼ | — ¼ |
| 1½ | .65 | 1⅛ | .75 | 1 | Boston & Wyo | 2,300 | 1 1/16 | 1 1/16 | 1 | 1 | 0 |
| 7⅜ | 3⅛ | 6⅝ | 2¾ | 25c | Carib. Synd | 3,900 | 5⅜ | 3⅞ | 3½ | 3¾ | 0 |
| 195 | 128 | 190 | 132 | 100 | Cities Service | 1,190 | 165 | 169 | 164 | 169 | +3 |
| 70 | 64¼ | 82⅞ | 67¾ | 100 | do pfd | 3,900 | 80½ | 81 | 80¼ | 81 | + ⅜ |
| 6⅜ | 5⅛ | 7¾ | 6⅛ | 10 | do pfd. B | 300 | 7⅜ | 7⅜ | 7⅜ | 7⅜ | — ⅛ |
| 19½ | 12¾ | 19 | 13¼ | 10 | do Bkrs. Sh | 800 | 16½ | 16½ | 16¼ | 16½ | 0 |
| 7⅜ | 1½ | 10⅜ | 2⅛ | N.P. | Creole Synd | 10,600 | 10⅛ | 10¼ | 10 | 10⅛ | — ⅛ |
| 18½ | 5 | 8 | 3 | N.P. | Derby O. & R | 3,100 | 4 | 8 | 4 | 6½ | +2½ |
| 49½ | 22 | 34¼ | 17½ | N.P. | do pfd | 3,300 | 22 | 28½ | 22 | 28½ | +6½ |
| 1 | .10 | .60 | .12 | 5 | Federal Oil | 1,000 | .20 | .20 | .20 | .20 | 0 |
| 2⅛ | .28 | .60 | .15 | 10 | Glenrock Oil | ..... | ..... | ..... | ..... | ..... | ..... |
| 68¼ | 45¾ | 67⅞ | 56¾ | 25 | Gulf Oil Corp | 10,300 | 66¼ | *67⅜ | 66 | 66½ | + ¼ |
| 9⅜ | 1 | 2⅝ | .87 | N.P. | Gulf State O.& R | ..... | ..... | ..... | ..... | ..... | ..... |
| 4 | 1½ | 4½ | 1¾ | N.P. | Kirby Petroleum | 170,400 | 3 | *4½ | 2½ | 4¼ | +2⅜ |
| ..... | ..... | 5¾ | 2⅞ | N.P. | Lago Petroleum | 30,800 | 5⅛ | 5⅛ | 4½ | 4½ | — ½ |
| 5⅛ | 1½ | 4⅞ | 2 | N.P. | Marland of Mexico | ..... | ..... | ..... | ..... | ..... | ..... |
| 20¼ | 12⅛ | 20¾ | 16 | 10 | Mountain Prod | 3,400 | 18¾ | 19 | 18⅜ | 18⅞ | + ⅛ |
| 15¼ | 12¾ | ..... | ..... | 5 | Mutual Oil Co | ..... | ..... | ..... | ..... | ..... | ..... |
| 15½ | 8⅛ | 14 | 9½ | 5 | do cfts | 51,600 | 11⅞ | 12½ | 11⅞ | 12⅜ | + ⅜ |
| 6⅛ | 3½ | 6¼ | 4 | 5 | New Bradford | 100 | 4¼ | 4¼ | 4¼ | 4¼ | + ¼ |
| 52 | 15⅛ | 44 | 18⅝ | 10 | New England Fuel | 200 | 19½ | 19½ | †18½ | 19 | —1¼ |
| 21⅜ | 5 | 14 | 8½ | 25 | New York Oil | ..... | ..... | ..... | ..... | ..... | ..... |
| 1 1/16 | .45 | .80 | .50 | 10 | Omar O. & G | ..... | ..... | ..... | ..... | ..... | ..... |
| 13 | ¾ | 3½ | .90 | N.P. | Peer Oil Corp | 4,600 | 1⅞ | 1¾ | 1⅞ | 1½ | + ⅛ |
| 14¾ | 9¼ | 17¾ | 12¼ | 10 | Pennok Oil | 2,400 | 12½ | 12⅝ | 12½ | 12⅝ | + ⅛ |
| ..... | ..... | 57¾ | 53¾ | 25 | Red Bank Oil | 2,200 | 28 | 29½ | 27⅝ | 28⅛ | —2⅞ |
| 6⅞ | 2 | 5⅜ | 3⅜ | N.P. | Ryan Consolidated | 100 | 3⅝ | 3⅝ | 3⅝ | 3⅝ | — ⅜ |
| 14 | 6¼ | 10⅜ | 6½ | 10 | Salt Creek Cons | 500 | 6½ | 6¾ | †6½ | 6¾ | — ¼ |
| 25¾ | 15¼ | 27½ | 19⅝ | 10 | Salt Creek Prod | 5,300 | 24⅛ | 25 | 23¾ | 24¾ | + ⅜ |
| 4⅞ | .75 | 2⅜ | .80 | 5 | Sapulpa Refining | 100 | 1 1/16 | 1 1/16 | 1 1/16 | 1 1/16 | — ⅛ |
| 4 | .65 | 1⅜ | .80 | 5 | Seaboard O. & G | ..... | ..... | ..... | ..... | ..... | ..... |
| 13½ | 6 | 16 | 8 | 10 | Tidal Osage | 500 | 9 | 9 | 9 | 9 | —1¾ |
| ..... | ..... | 154 | 130¼ | 100 | Union of California | 1,700 | 144⅜ | *154 | 144⅜ | 153½ | +12½ |
| 10⅞ | 4 | 8⅜ | 4⅝ | 5 | Wilcox O. & G | 6,900 | 6⅝ | 6⅝ | 6⅜ | 6⅜ | — ¼ |
| ..... | ..... | 13⅜ | 5 | N.P. | Woodley Petroleum | 700 | 6¼ | 6¾ | 6¼ | 6¼ | + ⅜ |

## Pittsburgh Stock Exchange

| 1923 High | 1923 Low | 1924 High | 1924 Low | Par Value | Stocks | Transactions Week Ended Nov. 28 Sales | First | High | Low | Last | Ch'ge |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 4¼ | 7 | 4 | 10 | Ark. Nat. Gas | 1,775 | 5½ | 5½ | 5⅜ | 5½ | 0 |
| 33⅜ | 33 | 40½ | 35⅜ | N.P. | Columbia Gas | ..... | ..... | ..... | ..... | ..... | ..... |
| ..... | ..... | 30 | 30 | 25 | Fayette County Gas | ..... | ..... | ..... | ..... | ..... | ..... |
| 27 | 22¾ | 33¼ | 26½ | 25 | Lone Star Gas | 620 | 33 | 33 | 32½ | 32⅝ | — ⅜ |
| 58 | 51 | 60¾ | 51 | 50 | Manuf. L. & H | ..... | ..... | ..... | ..... | ..... | ..... |
| ..... | ..... | 33¼ | 28¼ | 25 | Ohio Fuel Corp.(W.I.) | 3,670 | 32¼ | 32¼ | 32 | 32¼ | — ⅛ |
| 19 | 11 | 16½ | 11⅛ | 1 | Ohio Fuel Oil | 10 | 15 | 15 | 15 | 15 | 0 |
| 66 | 30⅜ | 40¾ | 31½ | 25 | Ohio Fuel Supply | ..... | ..... | ..... | ..... | ..... | ..... |
| 24 | 18⅜ | 28½ | 22⅜ | 25 | Okla. Nat. Gas | 315 | 28 | 28⅛ | 27½ | 28 | — ¼ |
| 10½ | 5¾ | 9¾ | 6 | 5 | Pittsburgh O. & G | 84 | 7 | 7 | 7 | 7 | — ⅛ |
| 14 | 5¼ | 10½ | 6½ | 10 | Salt Creek Cons | 210 | 7 | 7 | 6⅞ | 6⅞ | + ⅛ |
| 13½ | 7 | 16½ | 9½ | 10 | Tidal Osage | ..... | ..... | ..... | ..... | ..... | ..... |
| ..... | ..... | 92 | 92 | 100 | do pfd | ..... | ..... | ..... | ..... | ..... | ..... |
| 29½ | 23¾ | 35½ | 27⅜ | 25 | Union Nat. Gas | ..... | ..... | ..... | ..... | ..... | ..... |
| ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

### Pittsburgh Curb Market

| 1923 High | 1923 Low | 1924 High | 1924 Low | Par Value | Stocks | Transactions Week Ended Nov. 28 Sales | First | High | Low | Last | Ch'ge |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ..... | ..... | 2½ | 2½ | N.P. | Arkansas Fuel w i | ..... | ..... | ..... | ..... | ..... | ..... |
| ..... | ..... | 14 | 14 | 25 | Barnsdall B | 100 | 14 | 14 | 14 | 14 | ..... |
| 1½ | .22 | .76 | .20 | 5 | Colombia Synd | 17,150 | .50 | .50 | .35 | .40 | —.15 |
| 2⅜ | .26 | .70 | .30 | 5 | Duquesne Oil | ..... | ..... | ..... | ..... | ..... | ..... |
| 37 | 10 | 9½ | 5½ | 10 | Forest Oil | ..... | ..... | ..... | ..... | ..... | ..... |
| 1¾ | 1 | .15 | .15 | 1 | Grant Oil | ..... | ..... | ..... | ..... | ..... | ..... |
| 68 | 46½ | 66½ | 57 | 25 | Gulf Oil Corp | 100 | 66¾ | 66¾ | 66¾ | 66¾ | 0 |
| .03 | .02 | ..... | ..... | 1 | Homer Union | ..... | ..... | ..... | ..... | ..... | ..... |
| 24½ | 16⅛ | 23¾ | 21 | N.P. | International Pet | 200 | 23¾ | *23¾ | 23¾ | 23¾ | 0 |
| ..... | ..... | 4½ | 4½ | N.P. | Lago Petroleum | ..... | ..... | ..... | ..... | ..... | ..... |
| ..... | ..... | 65 | 64½ | 50 | Manuf. L. & H | 33 | 64½ | 65 | 64½ | 65 | ..... |
| 8½ | 4 | 6 | 5 | 10 | Marshall Oil | ..... | ..... | ..... | ..... | ..... | ..... |
| .36 | .15 | .39 | .01 | 1 | Mex. Wyoming | ..... | ..... | ..... | ..... | ..... | ..... |
| ..... | ..... | 18 | 18 | 10 | Mountain Prod | ..... | ..... | ..... | ..... | ..... | ..... |
| ..... | ..... | 30 | 29½ | 825 | Ohio Fuel Corp | ..... | ..... | ..... | ..... | ..... | ..... |
| ..... | ..... | 41¾ | 41¾ | 25 | Ohio Fuel Supply | 180 | 41¾ | 41¾ | 41¾ | 41¾ | ..... |
| 2½ | 1⅛ | 2⅞ | 1½ | 1 | Oklahoma Eastern | 1,905 | 2¼ | 2½ | 2¼ | 2½ | 0 |
| 2 | .60 | .77 | .45 | 10 | Omar O. & G | 500 | .60 | .60 | .60 | .60 | 0 |
| 22½ | 7 | 8 | 5 | 5 | States Oil | ..... | ..... | ..... | ..... | ..... | ..... |
| ..... | ..... | 14 | 10 | 10 | Tidal-Osage. N. Y | ..... | ..... | ..... | ..... | ..... | ..... |

*New High †New Low x Ex Dividend